

CONCHOLOGIA ICONICA:

OR,

ILLUSTRATIONS

OF THE

SHELLS OF MOLLUSCOUS ANIMALS.

VOL. XX.

CONTAINING MONOGRAPHS OF THE GENERA

SOLEMYÀ.	TEREDO.	FISTULANA.	PTEROPODA.
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CLAUSILLA.	MYTELIMERIA.	SILIQUARIA.	ALYCÆUS.
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KUPHUS.	ZYLOPHAGA AND NAVEA.	PLANAXIS.	AURICULA.
		VELORITA.	

BY

LOVELL AUGUSTUS REEVE, F.L.S., F.G.S.,

CORRESPONDING MEMBER OF THE NATURAL HISTORY SOCIETY OF WÜRTTEMBERG, OF THE LYCEUM OF NATURAL HISTORY OF NEW YORK, OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, AND OF THE ZOOLOGICO-BOTANICAL SOCIETY OF VIENNA.

CONTINUED BY

G. B. SOWERBY, F.L.S.

"Twas the 'Creator'
He sought in every volume open to him,
From the small leaf that holds an insect's web,
From which ere long a colony shall issue,
With limbs and wings as perfect as the eagle's,
To the stupendous ocean, that gives birth
And nourishment to everlasting millions
Of creatures, great and small, beyond the power
Of man to comprehend, how they exist."

J. Montgomery.

LONDON:

L. REEVE & CO., 5 HENRIETTA STREET, COVENT GARDEN.

1878.

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P R E F A C E

TO
THE TWENTIETH VOLUME.

ON the completion of this great work, a few words appear due to the Subscribers.

In the British Museum, England possesses a collection of shells—including that of the late Mr. Hugh Cuming, acquired by purchase in 1865—which for richness and completeness rivals all other collections in the world put together.

The ‘Conchologia Iconica’ was commenced by my late husband, Mr. Lovell Reeve, in 1843, as the exponent of these and other collections. At the time of his decease, in 1865, fifteen volumes of the work had been completed. Although these, containing as they do most of the more important Genera, would have been no inconsiderable contribution to Conchological science, still as many Genera remained unrepresented, it was thought desirable to continue the work to a point at which, for all practical purposes, it might be pronounced complete.

The literary conduct of the work was therefore entrusted to Mr. G. B. Sowerby, F.L.S., who had hitherto supplied the artistic portion.

His Royal Highness the late Prince Consort was amongst the earliest subscribers, and his subscription (for two copies) has been graciously continued by Her Majesty the Queen.

Many of the earlier subscribers have not lived to see the completion of the work, in the commencement of which they took a lively interest, but their subscriptions have been continued by members of the family, or have been replaced by other individuals.

To Her Most Gracious Majesty the Queen, and to the rest of the Subscribers, I beg to tender my most grateful acknowledgments, for the continued support which has enabled me to bring the work to what I trust will be deemed a satisfactory conclusion.

MARTHA REEVE.

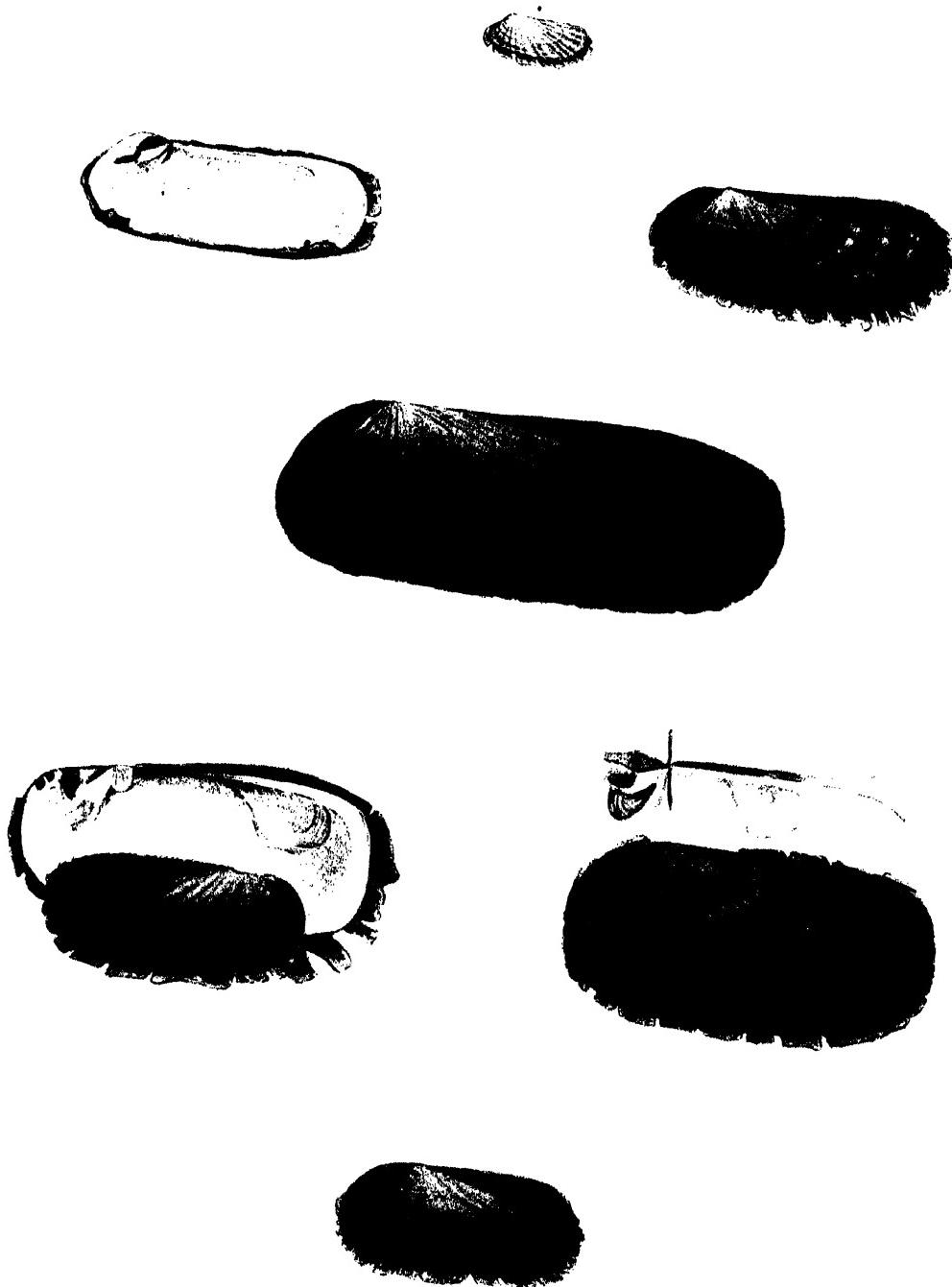
THE COTTAGE, GILSTON, NEAR HARLOW:

March 20, 1878.

M O N O G R A P H
OF THE GENUS
S O L E M Y · A.

'Out of the deep th' Almighty King
Did vital beings frame.' *Watts.*

Schizomyia



S O L E M Y A.

Genus SOLEMYA, Lamarck.

Testa equivalvis, inaequilateralis, transversè oblonga, utrinquè obtusa, epidermide corneo, valido, nitido, nitens fuscum, ultra marginem valvarum extenso induit. Cardo edentulus. Ligamentum partim internum post callum trigonum instructum. Impressiones duas remotas, subtriangularia.

Shell equivalve, inequilateral, transversely oblong, obtuse at each end, covered with a strong shiny brown horny epidermis extending beyond the edges of the valves. Hinge without teeth, ligament partly internal, inserted behind a three-cornered callus; muscular impressions two, distant, subtriangular.

To the four or five species previously known one has recently been described and well characterized by Mr. Edgar Smith, of the British Museum—namely, the *Sol. Parkinsoni* from New Zealand, which appears to be very distinct from the comparatively well-known Australian species. The northern parts of the United States present one or two species, which, with the familiar *Solemya Mediterranea*, complete the little list. The *Solemyæ*, like the *Solenes* and *Myæ*, are mud-burrowers, and from the construction of the foot and thinness of the shell leap with surprising activity. The shell is described as having a cardinal tooth in each valve, but the term seems quite inapplicable to the internal callus, behind which the ligament is inserted in a groove.

Species 1. (Mus. Brit.)

SOLEMYA OCCIDENTALIS. *Sol. testū parvā, angustā, elongatā; latere postico brevissimo, margine laterali obliquè truncato; latere postico attenuato, ad terminum acuminato.*

THE WESTERN SOLEMYA. Shell small, narrow, elongated; posterior side very short, lateral margin obliquely truncated; posterior side attenuated, acuminate at the end.

DESHAYES. MS. Brit. Mus.

Hab. —?

The specimens in the British Museum appear young, and the shape of the callus and ligamental insertion not sufficiently developed to determine the distinctness of the species. It is, however, a larger shell than *Solemya Mediterranea*.

Species 2. (Figs. a, b, c, Mus. Brit.)

SOLEMYA MEDITERRANEA. *Sol. testā soleniformi, elongatā, radiatā; latere postico angustiūsculo, brevissimo, obliquè truncato; latere antico elongato, versū terminū ampliūsculo; callo cardinali angusto, arcuato, obliquè trigono; areā ligamentiferā post callum trigonā, infrā lineatim productā; ligamento partim etiam in sulcam obliquam linearem ante callum instructo.*

THE MEDITERRANEAN SOLEMYA. Shell soleniform, elongated, rayed; posterior side rather narrowed, very short, obliquely truncated; anterior side elongated, rather more ample towards the end; cardinal callus narrow, curved, obliquely trigonal; ligamental area behind the callus trigonal, linearly produced below; also a part of the ligament inserted in an oblique linear sulus in front of the callus.

LAMARCK. Anim. s. Vert., ed. Deshayes, vol. vi. p. 125.
Solemya Solen, Salis Marchlius.

Hab. Mediterranean.

Species 3. (Mus. Brit.)

SOLEMYA BOREALIS. *Sol. testū breviūsculā, anticē latā, subtruncatā, posticē latissimo, ad terminum truncato; callo cardinali trigono crasso, lato; insū bifurcato; impressione musculari anticē elongatā, subtriangularis; epidermide crasso.*

THE BOREAL SOLEMYA. Shell rather short, anteriorly broad, rather truncated, posteriorly very broad, truncated at the end; cardinal callus trigonal, thick, broad; bifurcate below; anterior muscular impression elongated, subtriangular; epidermis thick.

SOLEMYA.

TOTTEN. Siliman's Journal, vol. vi. p. 124.

Solemya velum, Say.

Hab. North America.

Species 4. (Mus. Brit.)

SOLEMYA PARKINSONI. *Sol. testâ latâ, breviusculâ, radiatum subsulcato, utringue latè truncato; callo cardinali valde obliquo, arcuato, versus terminum internum attenuato; ligamento partim etiam in sulcum elongatum verticaliter ante callum instructo; impressione musculari latâ.*

PARKINSON'S SOLEMYA. Shell broad, rather short, radiately slightly grooved, broadly truncated at each end; cardinal callus very oblique, curved, attenuated towards the inner termination; ligament also partly inserted in an elongated vertical sulus in front of the callus; anterior muscular impression broad.

GRAY. MS. in Brit. Mus. Descr. E. Smith, Zool. Erebus and Terror, p. 6.

Hab. New Zealand.

Species 5. (Mus. Brit.)

SOLEMYA AUSTRALIS. *Sol. testâ breviusculâ, ad terminalis obtusâ, æqualiter latiusculâ; callo cardinali latâ, trigono, infra attenuato; ligamento etiam partim in foream subquadratum ante callum instructo.*

THE AUSTRALIAN SOLEMYA. Shell rather short, obtuse at the ends, equally rather broad; cardinal callus broad, trigonal, attenuated below; ligament also partly inserted in a rather square pit in front of the callus.

LAMARCK. Anni. s. Vert., Deshayes ed., vol. vi. p. 124.

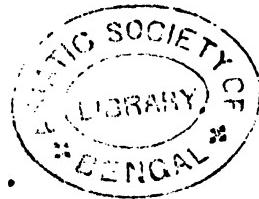
Hab. Australia.

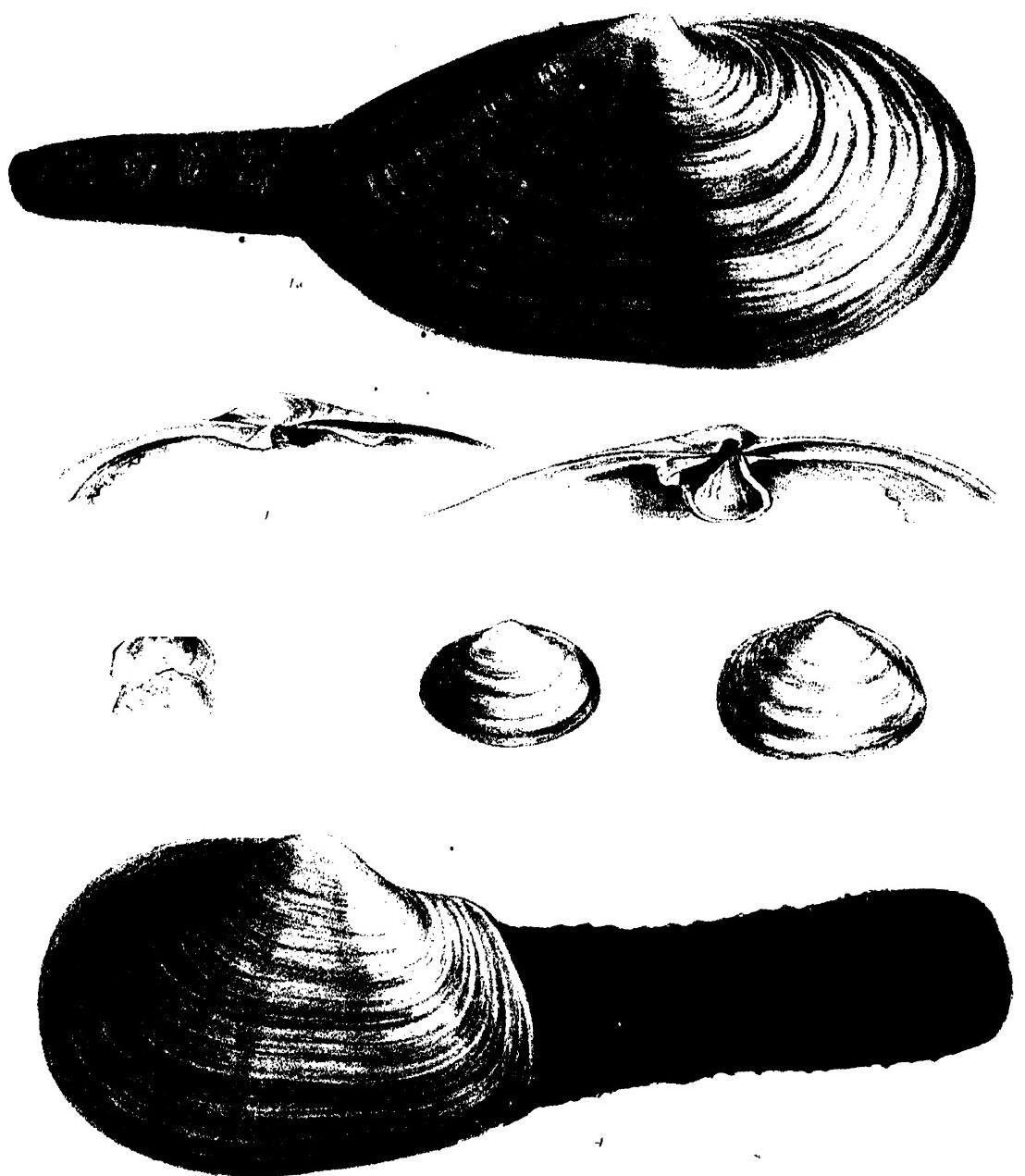
MONOGRAPH

OF THE GENUS

M Y A.

‘To dive like buckets in concealed wells.’ — *Shakspe*





MYA.

PLATE I.

Genus MYA, Linnæus.

Testa equivalvis, bimusculosa, plerumque ad extremitates hians, oblonga, epidermide rugato induto. Cervus edentulo, lamina ligamentifera trigona, excavata, projecta, in valva sinistra munita. Impressio pallii plusminusve sinuata.

Shell equivalve, bimuscular, generally gaping at each end, covered with a wrinkled epidermis. Hinge toothless, furnished in the left valve with a ligament-bearing, trigonal, hollow projecting plate. Pallial impression more or less sinuated.

Genus CRYPTOMYA, Conrad (included).

In the more restricted genus *Mya*, typified by *M. arenaria* and *M. truncata*, the siphons are long and produced, and covered with a coriaceous epidermis in continuation of that which covers the shell; but in the *Cryptomya* there is not the same epidermis-covered projection. But the construction of the hinge and general characters of the shell, and the mud-boring habits of the animal are alike in both groups; and no useful purpose is served in keeping them apart. The *Mya* are few in number, and are principally inhabitants of Northern shores.

Species 1. (Mus. Sowerby.)

MYA ARENARIA. *Mya testa ovata, solidata, fulvata, concentrica leviter rugata, utrinque validè hianti; latere antico ventricoso, lato, latere postico cuneato, subdepresso, leviter angulato, ad terminum subobliquè truncato; lamina ligamentifera in valva dextra magnâ, producta; impressione pallii late et quadratim sinuata.*

THE SAND MYA. Shell ovate, solid, brown, concentrically lightly wrinkled, gaping strongly on each side; anterior side ventricose, broad, posterior side cuneate, subdepressed, slightly angular,

rather obliquely truncated at the end; ligament-bearing plate in the left valve large, produced, pallial impression broadly and squarely sinuated.

LINNAEUS. *Systema Naturae.*

Hab: British Coasts.

Species 2. (Mus. Brit.)

MYA ELLIPTICA. *Mya testa tenui, ovata, compressa, angustè hianti; latere antico breviæculo; latere postico propriæ marginem dorsalem obliquè depresso, angulata, ad terminum obliquè truncata; margine ventrali rectiusculo.*

THE ELLIPTICAL MYA. Shell thin, ovate, compressed, narrowly gaping; anterior side rather short; posterior side obliquely depressed near the dorsal margin, angular, obliquely truncated at the end; ventral margin rather straight.

A. ADAMS (*Cryptomya*). MS. Mus. Brit.

Hab: —?

More nearly equal-sided than *Mya Californica*, the anterior and not the posterior side being the shorter.

Species 3. (Fig. a, b, Mus. Brit.)

MYA CALIFORNICA. *Mya testa compressa, angustè hianti, ovata, pallidè rubescens; latere antico inflato, rotundo, umboibus subretrospicis; latere postico subangustato, breviæculo, ad terminum subtruncato, lamina ligamentifera parviæcula, sinu pallii impressionis parva.*

THE CALIFORNIAN MYA. Shell compressed, narrowly gaping, ovate, pale reddish; anterior side inflated, rounded, umboes leaning a little backwards; posterior side a little narrow, rather short, slightly truncated at the end; ligamentiferous plate rather small, sinus of the pallial impression small.

CONRAD —? *Cryptomya*.

Hab: California.

MYA.—PLATE I.

Species 4. (Mus. Sowerby.)

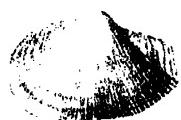
MYA TRUNCATA. *Mya testā oblongā, ventricosā, irreguliter rugatā, posticē latē hianti; latere antico valdū inflato, oblique tumido, margine dorsali elevato, umbonibus angulatis, prominentibus, retrorsisq; latere postico angustato; margine dorsali depresso, margine terminali truncato.*

THE TRUNCATED MYA. Shell oblong, ventricose,

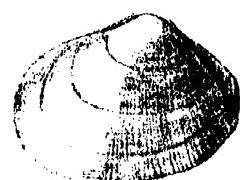
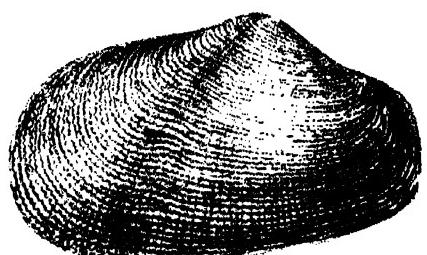
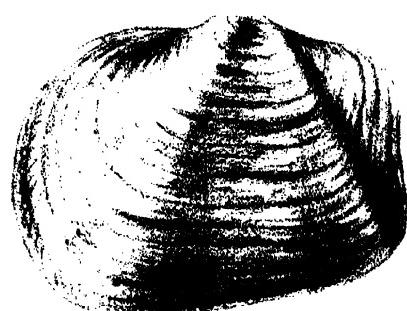
irregularly wrinkled, posteriorly broadly gaping; anterior side much inflated, obliquely tumid, dorsal margin elevated, umboes angular, prominent, leaning backwards, posterior side narrow; dorsal margin depressed, terminal margin truncated.

LINNAEUS. *Systema Naturæ.*

Hab. Coasts of Great Britain.



6 b



M Y A.

PLATE II.

Species 5. (Fig. a, b, Mus. Brit.)

MYA PHILIPPINARUM. *Mya testā tenui, albā, inflatā, inaequilaterali, vix aequivalvi; latere antico lavi, ventricosissimo, margine dorsali declivi, margine ventrali inflato; latere postico brevi, striato, subcompresso, posticè cuneato, subangulato, vix truncato, margine dorsali declivi, margine ventrali sursum acclivi, umboibus rotundis, retrorsis.*

THE PHILIPPINE MYA. Shell thin, white, inflated, in-equalateral, scarcely equivalve; anterior side smooth, very ventricose, dorsal margin sloped, ventral margin much inflated; posterior side short, striated, a little compressed, posteriorly cuneate slightly angular, hardly truncated; dorsal margin sloped downwards, ventral margin sloped upwards; umboes rounded, leaning backwards.

A. ADAMS. MS. Brit. Mus.

Hab. Bay of Manilla.

Belonging to the group known as *Cryptomya*, and like several other species, having one half of its surface striated; the other smooth.

Species 6. (Fig. a, b, Mus. Brit.)

MYA SEMISTRIATA. *Mya elongato-ovatā, tenui, albā, latere antico inflato, lēvigato; latere postico, usque ad medium tenuiter, posticè valde striato, ad terminum angustato, angulato, post angulum, truncato, lavi.*

THE HALF-STRIATED MYA. Shell elongated, oval, thin, white, anterior side inflated, smooth; posterior side finely striated as far as the middle, strongly behind, narrow at the end, angular, truncated behind the angle, smooth.

HANLEY. Proc. Zool. Soc. 1850, p. 80.

Hab. — ?

One of the *Cryptomya* group described by Mr. Hanley from a single valve in the collection of the late Mr. Cuming.

Species 7. (Mus. Brit.)

MYA PRÆCISA. *Mya testā oblongo-subquadratā, brevi altā, concentricè irregulariter rugatā, anticè inflatā, latā; posticè subangustatā: latere postico brevi, latè truncato, hianti, margine elevato.*

THE SHORTENED MYA. Shell oblong-subquadrate, short, elevated, concentrically irregularly wrinkled, inflated in front, broad; posteriorly rather angular; posterior side short, broadly truncated, gaping, margin raised.

GOULD. United States Exploring Expedition.

Hab. Sitcha.

Although this shell is broader and shorter than the British *Mya truncata* is generally found, its distinctness from that species is matter of some doubt.

Species 8. (Fig. a, b, Mus. Sowerby.)

MYA CANCELATA. *Mya testā elongatā, crassiusculā, albida rugis concentricis numerosis, minutè undulatis, et striis radiantibus decussatā; latere postico brevi, cuneato, ad terminum, truncato, circulariter hiant; latere postico inflato, obliquè producto, ad terminum rotundato.*

THE CANCELLED MYA. Shell elongated, rather thick, whitish; decussated with numerous minutely undulated concentric wrinkles and radiating striae, posterior side short, cuneate, truncated and roundly gaping at the end; posterior side inflated, obliquely produced, rounded at the end.

CONRAD. Annals of Natural Science of the Academy of Philadelphia.

Hab. California.

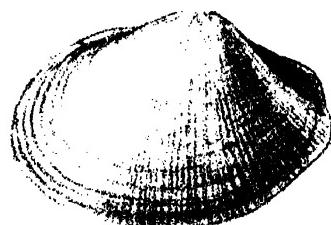
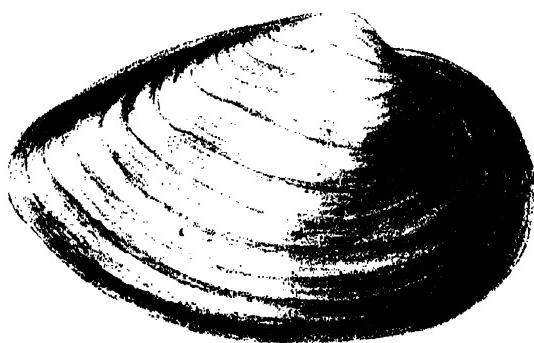
April, 1875.





22

23



23.



M Y A.

PLATE III.

Species 9. (Fig. a, b.)

MYA MINDOROENSIS. *Mya testa compressa, albâ, latâ, levigata, ovata; latere antico subinflato, rotundato, umboibus parvis, submedianis; latere postico angustiusculo, propè marginem dorsalem angulato, post angulum compresso, ad terminum latè truncato, margine dorsali brevi, depresso.*

THE MINDORO MYA. Shell compressed, white, broad, smooth, ovate; anterior side rather inflated, rounded, umboes small, nearly central; posterior side rather narrow, angular near the dorsal margin, compressed behind the angle, broadly truncated at the end, dorsal margin short, depressed.

ADAMS AND REEVE —? MS. Mus. Cum. in Brit.

Hab. Isl. Mindoro.

A small shell of the *Cryptomya* group, differing from *Mya California* chiefly in the broad posterior truncation.

Species 10. (Mus. Brit.)

MYA DIVARICATA. *Mya testa brevi, postice latissimè hianti, subquadrata, albâ, tenuissimè striatâ; latere antico semirotundo; umboibus elevatis, subacuminatis; latere postico acutè angulato, perpendiculariter truncato, antè angulum undulatum rugato, divaricatum striato.*

THE DIVERGENT MYA. Shell short, with a wide posterior hiatus, rather square, white, very finely striated; anterior side half-round; umboes elevated, rather acuminated; posterior side acutely angular, perpendicularly truncated, with wavy wrinkles and divergent striae in front of the angle.

A. ADAMS (*Cryptomya*). MS. Cum. Coll. in Brit. Mus.
Hab. Ceylon.

Species 11. (Mus. Brit.)

MYA DECURTATA. *Mya testa ovata, albâ, levigata, anticè subrotundata; margine ventrali convexa; latere*

postico acutè arcuatim angulato, angustato, perpendiculariter truncato; margine dorsali depresso, rectiusculo, complanato.

THE SHORTENED MYA. Shell ovate, white, smooth, anteriorly rounded; ventral margin convex; posterior side with an acute curved angle, narrow, perpendicularly truncated; dorsal margin depressed, rather straight, flattened.

A. ADAMS —? MS. (*Cryptomya*), Cum. Coll. in Brit. Mus.

Hab. Isl. Luzon, Philippines.

Species 12. (Fig. a, b, Mus. Sowerby).

MYA ACUTA. *Mya testa ovata, tenuiuscula, pallidè fulva, concentricè leviter rugata, utrinquè latè hianti; latere antico ventricoso, lato; latere postico cuneato, compresso subrostrato, subacuminato; impressione pallii acutè sinuato.*

THE ACUTE MYA. Shell ovate, rather thin, pale fulvous, concentrically lightly wrinkled, widely gaping at each end; anterior side ventricose, broad; posterior side cuneate, compressed, rather rostrated, rather acuminated; impression of the mantle roundly sinuated.

SAY. Wood's General Conchology.

Mya Japonica, Say (var.) MS. Mus. Sowerby.

Hab. North America; Chupoo, Japan.

The two specimens figured, the smaller Japanese, the larger North American, resemble each other and differ in the same degree from our common *Mya arenaria*. They are much more pointed at the end, and have a more rounded sinus in the pallial impression. These differences, however, may be rather varietal than specific.

MYA.—PLATE III.

Species 13. (Mus. Brit.)

MYA PRINCEPS. *Mya testā albā, tenui, ovatā, ventricosā;*
antē medium, medio et posticē radiatim striatā;
latere antico inflato, oblongo anticē lavigato, semi-
ovato; umbonibus inflatis, retrorsis; latere postico
brevi, angusto, obliquè angulato, antē angulum
coarctato, ad terminum truncato; margine dorsali
depresso, declivi.

THE PRINCE MYA. Shell white, thin, ovate, ventricose;

radiately striated from before the middle, and posteriorly; anterior side inflated, oblong, smooth anteriorly, semiovate; umbones inflated, recurved; posterior side short, narrow, obliquely angular; narrowed in front of the angle, truncated at the end; dorsal margin depressed, sloped.

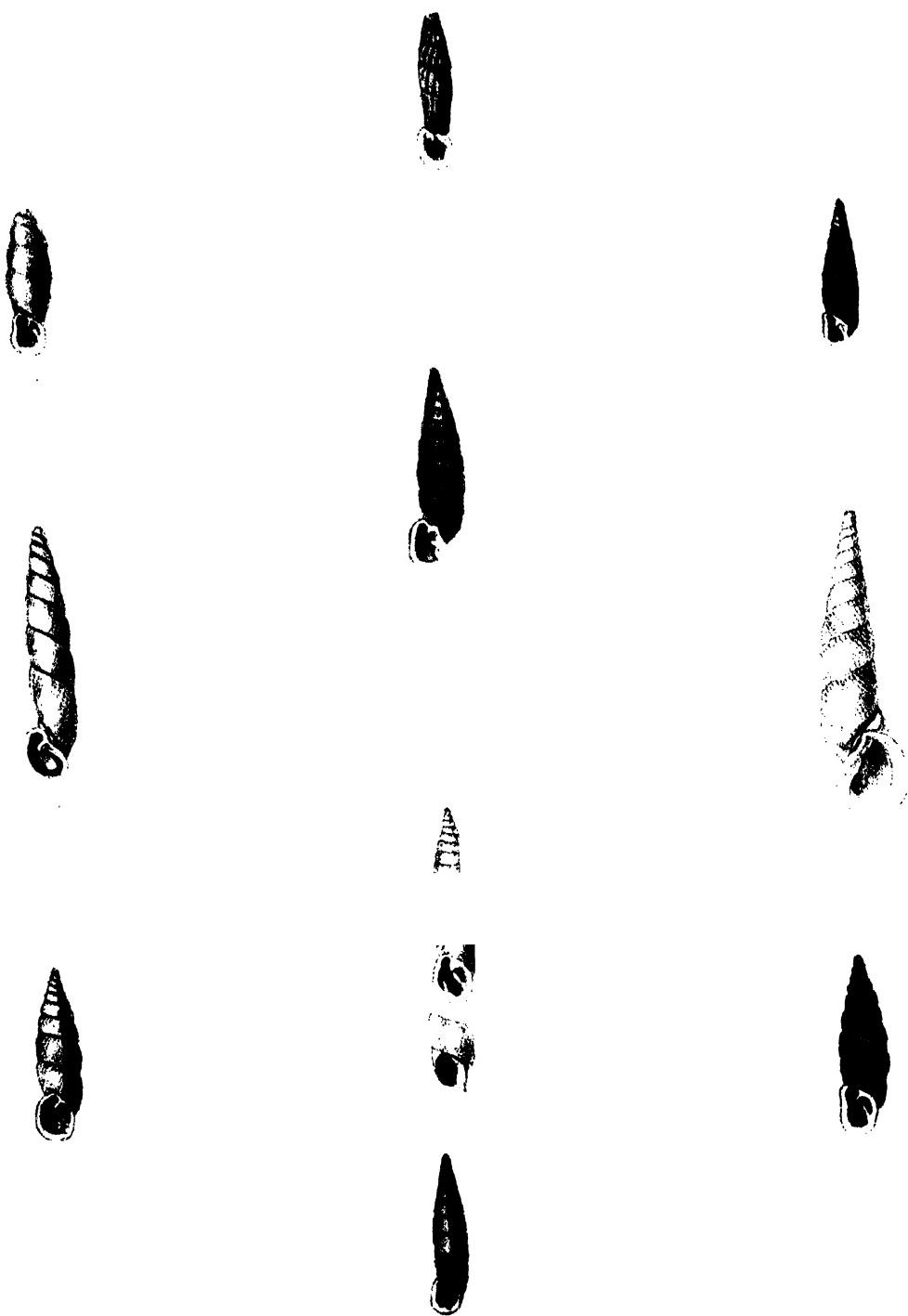
A. ADAMS. Ind. (*Cryptomya*) MS. Cum. Coll.

Hab. Philippine Islands.

The largest and finest of the *Cryptomya* group.

MONOGRAPH
OF THE GENUS
C L A U S I L I A.

Nature, great parent! How mighty, how majestic are thy works!—*Thomson.*



CLAUSILIA.

PLATE I.

Genus CLAUSILIA. Draparnaud.

Testa terrestris, plerūque sinistralis, turrita, fusiformis, aperturā plus minusve auriformi, intus laminā liberā subspiralē testacea clausa, columellā plerūque biplicata.

Shell terrestrial, generally sinistral, turreted, fusiform, aperture more or less auriform, closed within by a free subspiral shelly plate, columella generally with two plaits.

The *Clausium*, shown at fig. 7, can only be seen *in situ*, by breaking the last whorl of the shell. It is of a subspiral form and turns on the edge of the inner part of the columella by means of a cartilaginous hinge. The animal can thereby retreat further within his shell and shut himself up more securely than by means of the ordinary external operculum of other shells. The species of this interesting genus of land shells are found everywhere in Europe, in China, and Chinese and Indian Islands, and generally in temperate districts. We have not been able to identify, among our 165 species taken principally from the British Museum and our own collections, half of the species enumerated by Pfeiffer, whose long and laborious studies, almost entirely confined to the air-breathing molluscs, have enabled him to present so complete a list. Our enumerations, however, include the great bulk of the species likely to be met with, and most of the more interesting and striking forms.

Species 1. (Mus. Sowerby.)

CLAUSILIA TRIDENS. *Cla. testa pupaformi, medio subinflato, fusco, profundè perpendiculariter sulcato; anfractibus senis permanentibus, altis, ultimo elongato, angustato, infrà prolongato, profundè rimato, subtortuo; aperturā magnā, latā, subquadratā, supernè elevato, acuminato; margine albo, crasso, expanso; plicā parietali crassā, plicā columellari parvā, elevatā, plicā subcolumellari inconspicuā.*

THE THREE-TOOTHED CLAUSILIA. Shell pupa-shaped, a little inflated below, brown, deeply perpendicularly grooved; whorls six permanent, high, last elongated, narrow, prolonged below, deeply

notched, a little tortuous; aperture large, broad, rather square, raised above, acuminate; margin white, thick, expanded; parietal plait thick, columellar plait small, raised, under-columellar plait inconspicuous.

CHEMNITZ (*Turbo*). Pfr. Mon. Hel. II. 396.

Turbo costulatus. Wood.

Clausilia labiata. Sowerby.

Hab. Porto Rico.

Species 2. (Mus. Brit.)

CLAUSILIA BARTLETTI. *Cla. testa subroseā, brevissimā, ventricosissimā, solidā, laci; anfractibus quinis, tribus maximis, inflatis, ultimo angustato, prolongato; aperturā subauriformi, labio externo supra medium sinuato; plicā parietali magnā, plicā columellari substrigona.*

BARTLETT'S CLAUSILIA. Shell somewhat pink, very short, very ventricose, solid, smooth; whorls five, three very large, inflated, last narrowed, prolonged; aperture subauriform, outer lip sinuous above the middle; parietal plait large, columellar plait subtrigonal.

A. ADAMS. Proc. Zool. Soc. 1866.

Hab. Eastern Peru.

Species 3. (Mus. Brit.)

CLAUSILIA BIPPLICATA. *Cla. testa fusiformi, ventricosā, pruinosa, tenuissimè striata; anfractibus novenis, inflatis; aperturā oblongā; margine albo, labio interno biplicato.*

THE TWO-PLAITED CLAUSILIA. Shell fusiform, ventricose, plum-coloured, very finely striated; whorls nine, inflated; aperture oblong; margin white, inner lip two-plaited.

MONTAGU. Brit. Biv.

Helix perversa. Mull.

Clausilia Montaguī. Gray.

Hab. Germany, Spain, Great Britain.

Species 4. (Fig. a, b, Mus. Sowerby.)

CLAUSILIA FORMOSENSIS. *Cla. testa fusiformi, ventricosā, solidā, fulvā, vel pruinosa; anfractibus uh-*

CLAUSILIA.—PLATE I.

decenis, usque ad medium et infra gradatim crescentibus, ultimo rimato; aperturā subauriformi, margine crasso, albo, labio interno triplicato.

THE FORMOSA CLAUSILIA. Shell fusiform, ventricose, solid, fulvous or plum-coloured; whorls eleven, gradually increasing to the middle and below, last notched; aperture somewhat ear-shaped; margin thick, white; inner lip with three plait. H. ADAMS. Proc. Zool. Soc. 1866, p. 317, t. 33, f. 7. *Hab.* Island of Formosa.

Species 5. (Mus. Brit.)

CLAUSILIA PHÆDUSE. *Cla. testā altā, subcylindrica, flavidā, levigatā, ad suturam rubro-lineatā; anfractibus novenis, gradatim crescentibus, altis, obliquis, convexis, ultimo altissimo, longè rimato; aperturā elongato-auriformi, intus nigro marginatā, plicā parietali magnā.*

THE PHÆDUSA CLAUSILIA. Shell high, subcylindrical, yellow, smooth, with a red line at the suture; whorls nine, gradually increased, high, oblique, convex, last very high, with a long notch; aperture elongated, ear-shaped, black-edged within, parietal plait large.

A. ADAMS. Proc. Zool. 1872.

Hab. China.

Species 6. (Mus. Brit.)

CLAUSILIA TAYLOREI. *Cla. testā dextrā, albida, pyramidalia, medio paulò inflata, rugosè lirata; anfractibus undecenis, medio et suprā gradatim attenuatis, ultimo altissimo, infra medianū carinato, descendenti, subattenuato, profundè rimato, sublaxato; aperturā deltoidē, magnā, vix plicatā, margine nigrinque latè expanso.*

TAYLOR'S CLAUSILIA. Shell dextral, whitish, pyramidal, a little swelled in the middle, roughly ridged; whorls eleven, gradually attenuated from the middle upwards, last very high, keeled below the middle, descending, slightly attenuated, deeply notched, slightly uncoiled; aperture deltoid, large, scarcely plaited, margin widely expanded on each side.

PFEIFFER. Proc. Zool. Soc. 1861, p. 27, Pl. II.

Hab. —?

A shell of remarkable beauty and singularity of form.

Fig. 7. Species 142. (Mus. Brit.)

CLAUSILIA MACASCARIENSIS. I had figured the species on Plate XV, as *Clausilia Macaranae*, not knowing that the latter name was only synonymous with the former. The later figures and description were taken from a specimen in which the back of the last whorl is more strongly and roughly plaited than usual. In the figure on this Plate we have shown a last whorl with the clausium *in situ*.

Species 8. (Mus. —?)

CLAUSILIA EXILIS. *Cla. testā brevi, solidā, fusiformi, pruinosa, medio et infra ventricosa, latā; anfractibus novenis, levibus, inflatis, tornatā fulvā ad suturam marginatis, ultimo leviter rimato, infra angustato; aperturā perpendiculariter oblongā, magnā; margine albo, crasso, labio externo supra medium sinuato, tumido, plicā parietali prominenti, plicā columellari crassā, magnā.*

THE NARROW CLAUSILIA. Shell short, solid, fusiform, plum-coloured, ventricoso in the middle and below, broad; whorls nine, smooth, inflated, bordered with a narrow band at the suture; last slightly notched, narrowed below; aperture perpendicularly oblong, large; margin white, thick, outer lip sinuous above the margin, tumid, parietal plait prominent, columellar plate thick, large.

ADAMS. Proc. Zool. Soc. 1866.

Hab. Isle Formosa.

Species 9. (Mus. —?)

CLAUSILIA OBLITA. Sowerby.

THE FORGOTTEN CLAUSILIA.

An error has arisen from the first plate remaining undescribed long after its publication. The writer having mislaid his memoranda cannot now identify this shell, but names it provisionally as above.



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C L A U S I L I A.

PLATE II.

Species 10. (Mus. —? Copied.)

CLAUSILIA TORTICOLLIS. *Cla. testā brevi, fuscā, brevissimè cylindrica; anfractibus striatis, rectis, ultimo elevato, rimato, soluto; aperturā subquadratā, margine interno suprā, infra, et medio plicatā.*

THE WRY-NECKED CLAUSILIA. Shell short, brown, very shortly cylindrical; whorls few, striated, straight, the last raised, notched, uncoiled; aperture rather square, with the inner margin plaited above, in the middle and below.

OLIVIER. Sowerby's Genera.

Hab. Syria.

Species 11. (Mus. Sowerby.)

CLAUSILIA ANATOLICA. *Cla. testā sinistrali, fusiformi, pallidè griseo-fusco, medio et infra inflatā, supernè gradatim attenuatā; anfractibus convexiūsculis, obliquis, densè laminatim costatis; ultimo coarctato, rimato, propè aperturam obliquè birugato; aperturā magnā, subquadratā, margine expanso, tenui, labio externo intus plicato, margine superiori perpendiculariter uniplicatā; plicā columellari elevatā, obliquā.*

THE ANATOL CLAUSILIA. Shell sinistral, fusiform, pale greyish-brown, inflated in the middle and below oblique, with close, laminar ribs; last contracted, notched, with two oblique ridges near the mouth; aperture large, rather square, margin expanded, thin, outer lip with an inner plait, upper margin with a single perpendicular plait; columellar fold raised, oblique.

ROTH. Küster, p. 233.

Hab. Anatol.

Species 12. (Mus. Sowerby.)

CLAUSILIA ELEGANS. *Cla. testā subfusiformi, purpureo-fuscā; costis albī, tenuibus, crebris sequentiibus sculptā; anfractibus 9, convexiūsculis, ultimo post aperturam contracto et plicato; aperturā albida, subauriformi, margine expanso, reflexo,*

labio externo supernè incrassato, margine superiori perpendiculariter uniplicato, plicā columellari latā, obliquā.

THE ELEGANT CLAUSILIA. Shell rather fusiform, purple brown, sculptured with white, narrow numerous consecutive ribs; whorls nine, rather convex, the last contracted and plaited beyond the aperture; aperture whitish, somewhat auriform, margin expanded, reflected outer lip thickened above, upper margin with a single perpendicular plait, columellar plait broad, oblique.

BIELZ. Rossm. Icon. iii. p. 64.

Clausilia intercedens, A. Schmidt.

Hab. Wallachia.

Species 13. (Mus. Sowerby.)

CLAUSILIA LAMINATA. *Cla. testā levigatā, fusiformi, fuscocornerd, obliquè sinistrali; anfractibus convexiūsculis; aperturā subauriformi, intus intus plicatā; plicā superiori obliquā, breviūsculā; plicā columellari obliquā, latè laminatā; margine apertura angusto, albo.*

THE LAMINATED CLAUSILIA. Shell smooth, fusiform, horny-brown, obliquely sinistral; whorls rather convex; aperture somewhat auriform, plaited within at the lower part; superior plait oblique, rather short; columellar plait oblique, broadly laminar; edge of aperture narrow, white.

MONTAGU. British Shells.

Helix bidens, Müller.

Clausilia lamellata, Leach.

Clausilia derugata, Jeffreys.

Clausilia lucida, Menke.

Clausilia granatina, Zeigler.

Clausilia Transylvanica, Stentz.

Hab. Great Britain, and Europe generally.

Species 14. (Mus. Sowerby.)

CLAUSILIA EXARATA. *Cla. testā gracilè fusiformi, grisecenti, laminis tenuibus crebris sculptā; anfractu-*

CLAUSILIA.—PLATE II.

ultimo elongato, contracto, propè aperturam obliquè birugato, concavo; aperturā parvā, subauriformi, fulvā, infra intus plicatā, margine expanso, plicā superiori parvā, plicā columellarī elevatā, arcuatā.

THE PLOUGHED CLAUSILIA. Shell slenderly fusiform, greyish, sculptured with thin, close laminæ; last whorl elongated, contracted, with two oblique wrinkles near the aperture, concave; aperture small, rather auriform, brown, with an inner plait below, margin expanded; upper plait small; columellar plait raised, arched.

ZEIGLER. Pfeiffer Monog. ii. 449.

Clausilia callosa, Montford.

Clausilia denegabalis, Zeigler.

Hab. Dalmatia.

Species 15. (Mus. Sowerby.)

CLAUSILIA LÆVISIMA. *Cla. fusiformi, cornēd, lœvigatā, sinistrā; anfractibus vix convexis, elevatis, ultimo compresso propè aperturam arcuatim rimato; aperturā magnā, biplicatā, margine albo, reflexo, tenui.*

THE VERY SMOOTH CLAUSILIA. Shell fusiform, horny, smooth, sinistral; whorls scarcely convex, elevated, last compressed, with a curved notch close to the aperture; aperture large, with two folds, margin white, reflected, thin.

ZEIGLER. Pfeiffer Monog. ii. p. 439.

Clausilia glabrata, Mühlfeldt.

Clausilia lœvigata, Mühlfeldt.

Clausilia decorata, Zeigler.

Clausilia superstructa, Parreyss.

Clausilia fulginea, Parreyss.

Hab. Croatia and Dalmatia.

Species 16. (Mus. —? Copied.)

CLAUSILIA MOUHOTI. *Cla. testā fusiformi, ventricosā, terui, tenuiter striatā griseo-fuscā, maculis albis fuseisque propè suturam notatā, maculis albis medio anfractuum aspersā; anfractibus apicalibus rotundis, medianis inflatis, penultimo elongato, medio contracto, ultimo infra rimato; aperturā magnā, auriformi, plicā superiori parvā, albā, columellā biplicatā, aperturae margine reflexo, subexpanso.*

Mouhot's CLAUSILIA. Shell fusiform, ventricose, thin, finely striated, grey-brown, marked with white

and brown spots near the suture, sprinkled with white spots in the middle of the whorls; apical whorls rounded, middle ones inflated, the last but one elongated; the last notched; aperture large, auriform, upper plait small, white, columella with two plaits, margin of the aperture reflected, slightly expanded.

PFEIFFER. Proc. Zool. Soc., 1875, p. 275, Pl. 36.

Hab. Loa Mountains, Camboja.

Species 17. (Figs. a, b, Mus. Sowerby and Brit.)

CLAUSILIA LUCOSTIGMA. *Cal. testā fusiformi, angustā, fuscā, vel pallidè cornēd, medio subinflatō; anfractibus 9, elevatis, liratis, ad suturam lineā rubri maculis albis interruptā ornatis; ultimo rimato, contracto; aperturā albā, subauriformi, intus contracto, plicā columellarī latā, margine superiori perpendiculariter uniplicato.*

THE WHITE-MARKED CLAUSILIA. Shell fusiform, narrow, brown, or pale horn, a little inflated in the middle; whorls nine, raised, ridged, with a red line at the suture, interrupted by white spots; the last notched, contracted; aperture white, somewhat auriform, contracted within, columella plait broad, upper margin with a single perpendicular plait.

ZEIGLER. Pfeiffer Monog. ii. p. 446.

Clausilia candidilabris, Porro.

Clausilia opalina, Zeigler.

Clausilia latilabris, Mühlfeldt.

Hab. Italy.

Species 18. (Mus. Sowerby.)

CLAUSILIA CYLINDRICA. *Cla. breviāsculā, subcylindrica, cornēd, tenuiter liratā; anfractibus altis, rectiūculis, aperturā perpendiculariter oblongā, margine angusto, rotundo, albo, supernè uniplicato, plicā columellarī obliquā, angustā, elevatā.*

THE CYLINDRICAL CLAUSILIA. Shell rather short, rather cylindrical, horny, finely ridged; whorls elevated, rather straight, aperture perpendicularly oblong, margin narrow, rounded, white, plaited above, columellar plait oblique, narrow, raised.

GRAY. MS. Pfeiffer Monog. iii. p. 591.

Hab. Himalaya Mountains.



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CLAUSILIA.

PLATE III.

Species 19. (Mus. Sowerby.)

CLAUSILIA FALLAX. *Cla. testā subventricosā, fusiformi, liris lamelliformibus rugatā, pallide fulvā; aperturā subquadratā, superne uniplicatā, margine externo suprē contracto, labio columellari bicalloso, plicā columellari rectiūsculo, infrah truncato.*

THE FALLACIOUS CLAUSILIA. Shell rather ventricose, fusiform, wrinkled with lamelliform ridges, pale fulvous; aperture rather square, single plaited above, outer margin contracted above, columellar lip with two callosities, columellar plait rather straight, truncated below.

Rossmaßler —? Pfeiffer, Monog. ii. p. 427.

Clausilia obscura, Parreys.

Clausilia decipiens, Zeigl.

Hab. Transylvania.

Species 20. (Mus. Sowerby.)

CLAUSILIA DISCOLOR. *Cla. testā breviusculā, obesā, levigatā, medio ventricosā, versū apicem angustatā, cornēd, flamnis fuscescentibus variegatā, anfractibus 10, concreviusculis, tribus apicalibus angustissimis; aperturā latā, plicā superiori parvā, inferiori super columellam obliquè elongatā.*

THE TWO-COLOURED CLAUSILIA. Shell rather short, stout, smooth, ventricose in the middle, narrow towards the apex, horny, varied with brownish flames, whorls 10, rather convex, three apical very narrow; upper plait small, lower obliquely elongated upon the columella.

PFEIFFER, Monographia, ii. p. 416.

Hab. Isl. Cerigo.

Species 21. (Mus. Sowerby.)

CLAUSILIA PARVULA. *Cla. parvā, tenui, fusiformi, lavi, purpureo-fuscā; anfractibus altis, ultimo arcuatim rimato; aperturā subauriformi, intus infrah biplicato, margine tenui, rotundo albo, margine superiori uniplicato, plicā columellari elevato, perobliquo, infrah truncato.*

THE LITTLE CLAUSILIA. Shell small, thin, fusiform, smooth, purple-brown; whorls elevated, the last with a curved notch; aperture rather auriform, with two folds within at the lower part, margin thin, round, white, upper margin with one fold, columellar fold raised, very oblique, truncated below.

STUDER —? Pfrr. Mon. ii. p. 462.

Clausilia minima, Parreys.

Hab. Germany and other parts of Europe.

Species 22. (Mus. Brit.)

CLAUSILIA CYLINDRELLIFORMIS. *Cla. testā fusiformi, pallidissimè litacea, longè rimata, leviter lirata; anfractibus apicalibus fuscis, medianis subinflatī; ultimo contracto, elongato, longè soluto, ad dorsum rugis duabus obliquis, elevatis, elongatis quasi bicarinatā; aperturā remotā, suboratā, plicā superiori temni, plicā columellari elevata, tenui, margine, expanso, tenui.*

THE CYLINDRELLIFORM CLAUSILIA. Shell fusiform, very pale like, with a long notch, slightly ridged; apical whorls brown, middle whorls a little inflated, the last contracted, elongated, with a long portion uncoiled, as it were double-keeled at the back with two oblique elevated wrinkles; aperture distant, rather oval, upper plait thin, columellar plait raised, thin, margin expanded, thin.

BOURGUIGNAT —? Pfrr. Mon. Hel. iv. p. 720.

Hab. Mount Lebanon, Syria.

Species 23. (Mus. Sowerby.)

CLAUSILIA BIELZI. *Cla. testā dextrorsā, ventricosō-fusiformi, tenui, cornēd, irregulariter et plerumque distanter lirata; anfractibus convexis, medianis inflatis, elevatis, ultimo elongato, propè aperturam rimato; aperturā perpendiculariter oblongā, margine externo rotundo, lavi; plicis internis duabus, tenuibus, plicā marginali superiori parvā; plicā columellari tenui, angulata.*

BIELZI'S CLAUSILIA. Shell dextral, ventricose-fusiform, thin, horny, irregularly and for the most part distantly ridged; whorls convex, the middle ones inflated, raised, the last elongated, notched near the aperture; aperture perpendicularly oblong, outer margin rounded, smooth; internal plaits two, thin, upper marginal plait small, columellar plait thin, angular.

PARREYS. Pfeiffer Monog. iii. p. 588.

Clausilia tenuis, Parreys.

Clausilia clathrata, Rossmaßler.

Hab. Transylvania.

Species 24. (Mus. Brit.)

CLAUSILIA ROLPHI. *Cla. testū obtusū fusiformi, corneo fuso liris crebris sculptā; anfractibus medianis ventricosis, ultimo elevato, infri contracto, rimato in varicem spiralem ad dorsum desinente; aperturā subauriformi, margine externo supernē contracto, labio columellarī plicato, plicis, undā superiori, parvā, duabus parris submarginalibus, unā magnā laminatā, obliquā subintenui.*

ROLPH'S *CLAUSILIA*. Shell obtusely fusiform, horn-brown, sculptured with close ridges; middle whorls ventricose, the last raised, contracted below, notched, ending in a spiral varix at the back; aperture rather auriform, outer margin contracted above; columellar lip plaited, plaits, one above small, two small near the margin, one large, laminated, oblique, partly internal.

LEACH —? Pfeiffer Monog. iv. p. 762.

Clavisilia Mortilleti, Dumont.

Clavisilia biplicata, Parreys.

Clavisilia satelles, A. Schundl.

Hab. Britain, France, &c.

Species 25. (Mus. Brit.?)

CLAUSILIA SWINHOEI. *Cla. testū arcuato-rimatā, fusiformi, solidā, subventricosā, castaneā, striatā; anfractibus 10-12, convexiusculis, ultimo infrā turgide; aperturā verticali, oblongā ovali, angulo superiori rotundato; lamellis validis, undā superiori, duabus columellaribus obliquis, haud elevatis.*

SWINHOE'S *CLAUSILIA*. Shell with a curved notch, fusiform, solid, rather ventricose, chestnut striated; whorls ten to twelve convex, the last turgid at the lower part; aperture vertical, oblong, oval, rounded at the upper angle, lamellæ strong, one upper, two oblique columellar, not raised.

PFEIFFER. Proceedings of the Zoological Society, 1865, p. 830, plate 46, f. 11.

Hab. Isl. of Formosa.

Species 26. (Mus. Sowerby.)

CLAUSILIA CRISPA. *Cla. testū brevi, ventricosā fumoso-fuscā, anfractibus 8, maculis magnis allis castaneisque supernē propè suturam variegatis, convexis, tenuiter et densè liratis, ultimo propè aperturam rimato, infrā ad dorsum subspiraliter birugato; aperturā albā, disjunctā, intus contractā, margine late, laminatum expanso, plicā superiori perpendiculari, plicā columellarī elevatā.*

THE CRISP *CLAUSILIA*. Shell short, ventricose, smoky-brown, whorls eight, variegated above near the suture with large white and chestnut spots, convex, finely and closely ridged, the last notched near the aperture, with two subspiral wrinkles below on the back; aperture white, disjoined, contracted within, margin broad, spread in a layer, upper plait perpendicular, columellar plait elevated.

LOWE. Dr. Paiva, Monog. Moll. Madeira.

Hab. Madeira.

Species 27. (Mus. Sowerby.)

CLAUSILIA GASTROLEPTA. *Cla. testū breviuscūlā, castaneā ad suturam albido variegatā, tenuissimè liratā, anfractibus 9, medianis ventricosis, ultimo attenuato, rimato, compresso, infrā birugato; aperturā albā, margine lato, latere externo supra medium sinuatim incrassato, plicā superiori elongatiuscūlo, plicā columellarī lato, horizontali.*

THE SMALL-CHESTED *CLAUSILIA*. Shell rather short, chestnut, variegated with white at the suture, very finely ridged, whorls nine, the middle ones ventricose, the last attenuated, notched, compressed, with two wrinkles beneath; aperture white, margin broad, outer side sinuously thickened above the middle, upper fold rather lengthened, columellar fold broad, horizontal.

ZEIGLER —? Pfeiffer Monog. ii. p. 448.

Clavisilia Freyerii, Küster.

Clavisilia tabula, Küster.

Clavisilia elongata, Cautraine.

Clavisilia imbecilis, Parreys.

Hab. Dalmatia.

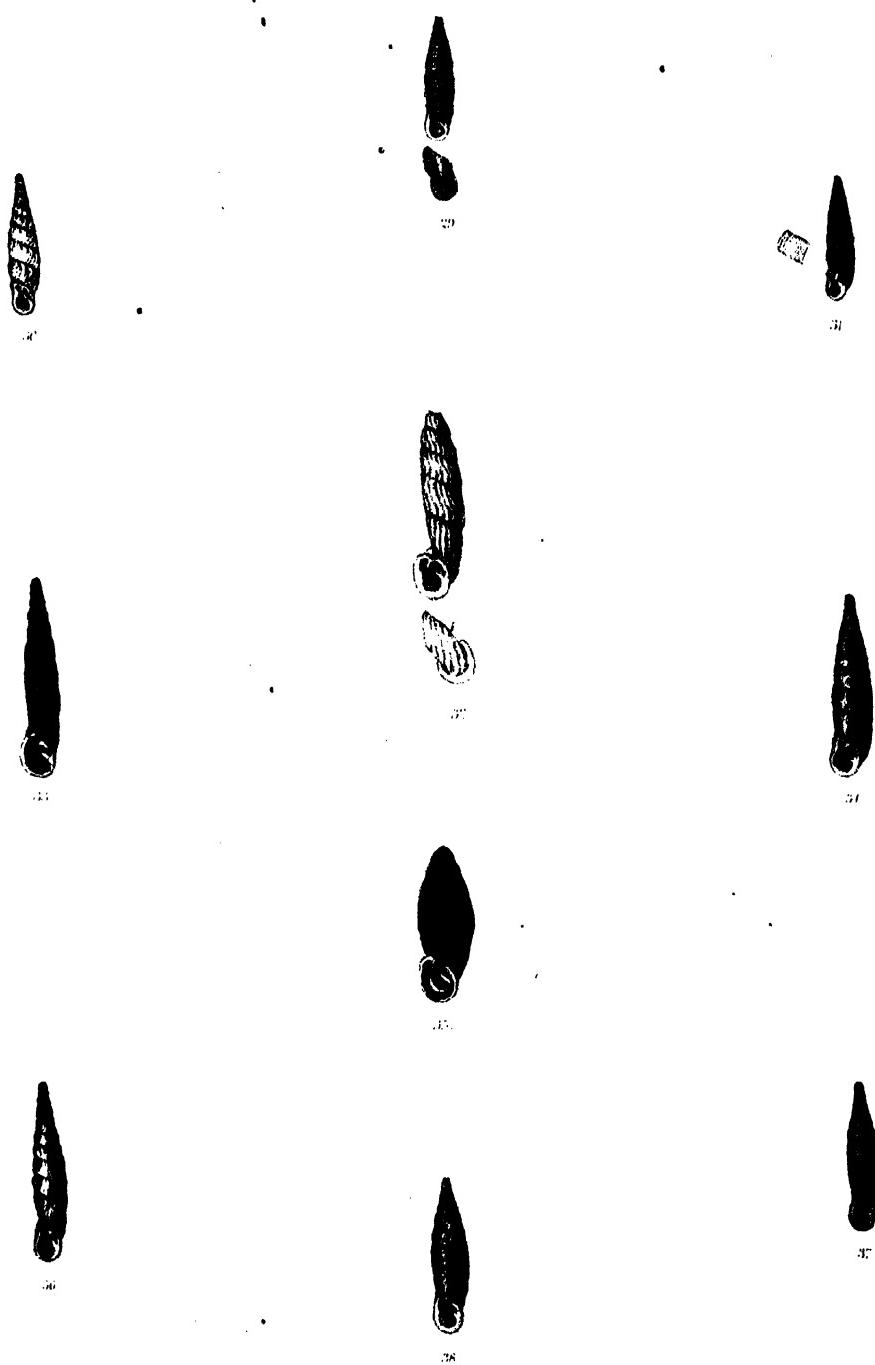
Species 28. (Mus. Sowerby.)

CLAUSILIA DELTOSTOMA. *Cla. testū parvū, angustā, fuscā, densè albilaratā; anfractibus 10, convexiusculis; ultimo rimato, obliquè attenuato, infrā birugato; aperturā subdeltoidē, biplicato, parvūsculo, subdisjuncto.*

THE DELTA-MOUTHED *CLAUSILIA*. Shell small, narrow, brown, with close, white ridges; whorls ten, rather convex; the last notched, obliquely attenuated, with two wrinkles below; aperture somewhat deltoid, with two plaits, rather small, a little disunited.

LOWE —? Pfeiffer Mon. ii. p. 411.

Hab. Porto Santo, Madeira.



C L A U S I L I A.

PLATE IV.

Species 29. (Mus. Sowerby.)

CLAUSILIA CONSPERSA. *Cla. testa levigata, cornuta, breviuscula, medio ventricosa, ad suturam tuberculata minutis albis crenata; anfractibus 10, ultimo rotato, ad dorsum albo notato, infra subvaricosa; apertura magna, plicata columellari latu, subhorizontali; margine tenui, albo, levigato.*

THE SPRINKLED CLAUSILIA. Shell smooth, horny, rather short, ventricose in the middle, crenated with minute white tubercles at the suture; whorls ten, the last notched, marked with white at the back, slightly varicose below; aperture large, columellar plait broad, nearly horizontal; margin thin, white, smooth.

PARREYSS. Rossmüller, Icon. iii.

Hab. Bosnia. Corfu. Dalmatia.

Species 30. (Mus. Brit.).

CLAUSILIA PLICATA. *Cla. testa elongata, fusiformi, rubrofuscata, tenuiter lirata, ad suturam plicis valide albis ornata; apertura oblonga, biplicata, infra subacuminata, margine tenuiter reflexo; ultimo anfractu rotato, infra elongato, tumido.*

THE PLAITED CLAUSILIA. Shell elongated, fusiform, reddish brown, finely ridged, ornamented at the sutures with strong white plaits; aperture oblong, with two plaits, somewhat acuminate below, margin thinly reflected; last whorl notched, elongated, tumid below.

DRAPARNAUD (Pupa). Conch. fluv. Pfeiffer Monog. ii. p. 479.

Clausilia maxima, C. grossa, C. elongata, C. pulverosa, Parreyss.

Clausilia rustica, Zeigler.

Helix muralis, Stüder.

H. plicosa, Ferrusac.

Clausilia plebeja, litigiosa, odontosa, anceps, consimilis, paradoxica, Zeigler.

Hab. Central Europe.

Species 31. (Mus. Sowerby.)

CLAUSILIA NIGRICANS. *Cla. testa parva, levigata, griseo-nigrescens, breviuscula, anfractibus 9, convexi-*

culis, apertura parva, biplicata, plicis marginaque albis.

THE BLACKISH CLAUSILIA. Shell small, smooth, blackish-grey, rather short, whorls nine, rather convex, aperture small, with two plaits; plaits and margin white.

PULTENEY. British Isles.

Clausilia Marcella, Risso.

Clausilia obtusa, Pfeiffer.

Clausilia didyma, Parreyss.

Clausilia bidentata, Mörch.

Clausilia elegantula, Parreyss.

Hab. Britain. Germany. France. Scandinavia.

Figure 32.

CLAUSILIA TRIDENS. Species I. Plate I.

Although this is a different variety and worth figuring for the difference, I am now convinced that *Cl. tridens* of Chemnitz, and *Cl. labiata*, Sowerby, *labiatus*, Montfort, are one.

Species 32 is postponed.

Species 33. (Mus. Sowerby.)

CLAUSILIA JAVANA. *Cla. testa gracile, fusiformi, fuscata, tenuissime obliquè striata; anfractibus convexiùculis, elevatis, obliquis, ultimo infra attenuato, rotato; apertura magna, auriformi, margine reflexo, expanso, albido, levigato, plicis superiori, columellarique parvis, albis, approximatis.*

THE JAVA CLAUSILIA. Shell slenderly fusiform, brown, very finely obliquely striated; whorls rather convex, raised, oblique, the last attenuated below, notched; aperture large, auriform, margin reflected, expanded, whitish, smooth, upper and columellar plaits small, white, approximate.

PFEIFFER. Monog. Helic. ii. p. 405.

Hab. Java.

This is an elegantly fusiform species with expanded aperture.

Species 34. (Mus. Sowerby.)

CLAUSILIA VENTRICOSA. *Cla. testa fusiformi-subpyramidalata, tenuissime filostrata, fuscata; anfractibus 13,*

obliquis, altis, medio et infrā ventricosis; suturā profundā, incisā; ultimo anfractu rimato, anicē tumido; aperturā subquadratō, margine albo; plicā superiori parvā, plicā columellari elevata, ferrē horizontali.

THE VENTRICOSE CLAUSILIA. Shell fusiform, somewhat pyramidal, very finely thread-striated, brown; whorls thirteen, oblique, elevated, ventricose in the middle and under; suture deep, incised; last whorl notched, tumid anteriorly; aperture rather square, margin white; upper plait small, columellar plait raised, nearly horizontal.

DRAPARNAUD. Con. fluv. Pfr. Mon. ii. p. 465.

Helix perversa, Sturm.

Clausilia latestriata, Parreyss.

Hab. Germany. France, &c.

Species 35. (Mus. Sowerby.)

CLAUSILIA PHILIPPINA. *Cla. testā brevi, fuscō-rubescēti, solidā, ventricosissimā, anfractibus 5-6, latis, altis, levigatis, ultimo angustato, juxta apertura lineatim rimato; aperturā subauriformi, margine expanso; plicis superiori et columellari validis, approximatis.*

PHILIPPI'S CLAUSILIA. Shell short, reddish-brown, solid, very ventricose, whorls five or six, broad, high, smooth; the last narrow, linearly notched close to the mouth; aperture rather auriform, margin expanded; upper and columellar plaits strong, approximate.

PFEIFFER. Monog. ii.

Hab. Birma.

A peculiarly obese shell of few whorls.

Species 36. (Mus. Sowerby.)

CLAUSILIA LINEOLATA. *Cla. testā fusiformi, elongatā, angustā, corneo-fusca, liris albis tenuibus, crebris sculpta; anfractibus 13, convexis, ultimo angustato, ad dorsum medio compresso, infrā tumido; aperturā oblonga, margine externo tenui, supra medium sinuatim subcontracto, plicā superiori brevissimo, plicā columellari, elevata, subinterno.*

THE LINEAR CLAUSILIA. Shell fusiform, elongated, narrow, horn-brown, sculptured with white, thin,

close ridges; whorls thirteen; convex, the last narrow, compressed in the middle at the back, tumid below; aperture oblong, outer margin thin, sinuously contracted above the middle; upper plait very short, columellar plait elevated rather internal.

HELD — ? Pfeiffer Monog. iv. p. 778.

Hab. Germany. France, &c.

Species 37. (Mus. Sowerby.)

CLAUSILIA OLIVIERI. *Cla. testā cœrulecenti, strigis undique cornicis variegatā, validē inæqualiter liratā, elongato-fusiformi; anfractibus 11, supernè declivibus; suturā profundā; ultimo anfractu angustato, rimato, ad dorsum medio compresso, infrā tumido, validē rugoso; aperturā fulvā, angustè ovatā, plicā superiori parvā, plicā columellari elevatā, intus angulatā?*

OLIVIER'S CLAUSILIA. Shell bluish, variegated with horny stripes and waves, strongly unequally ridged, elongated, fusiform; whorls eleven, sloped above; suture deep, last whorl narrow, notched, compressed in the middle at the back, tumid below, strongly wrinkled; aperture fulvous, narrowly ovate, upper plait small, columellar plait raised, angular within.

ROTH. — ? Küster, p. 233. Pfeiffer Mon. ii.

Hab. Rhode Island.

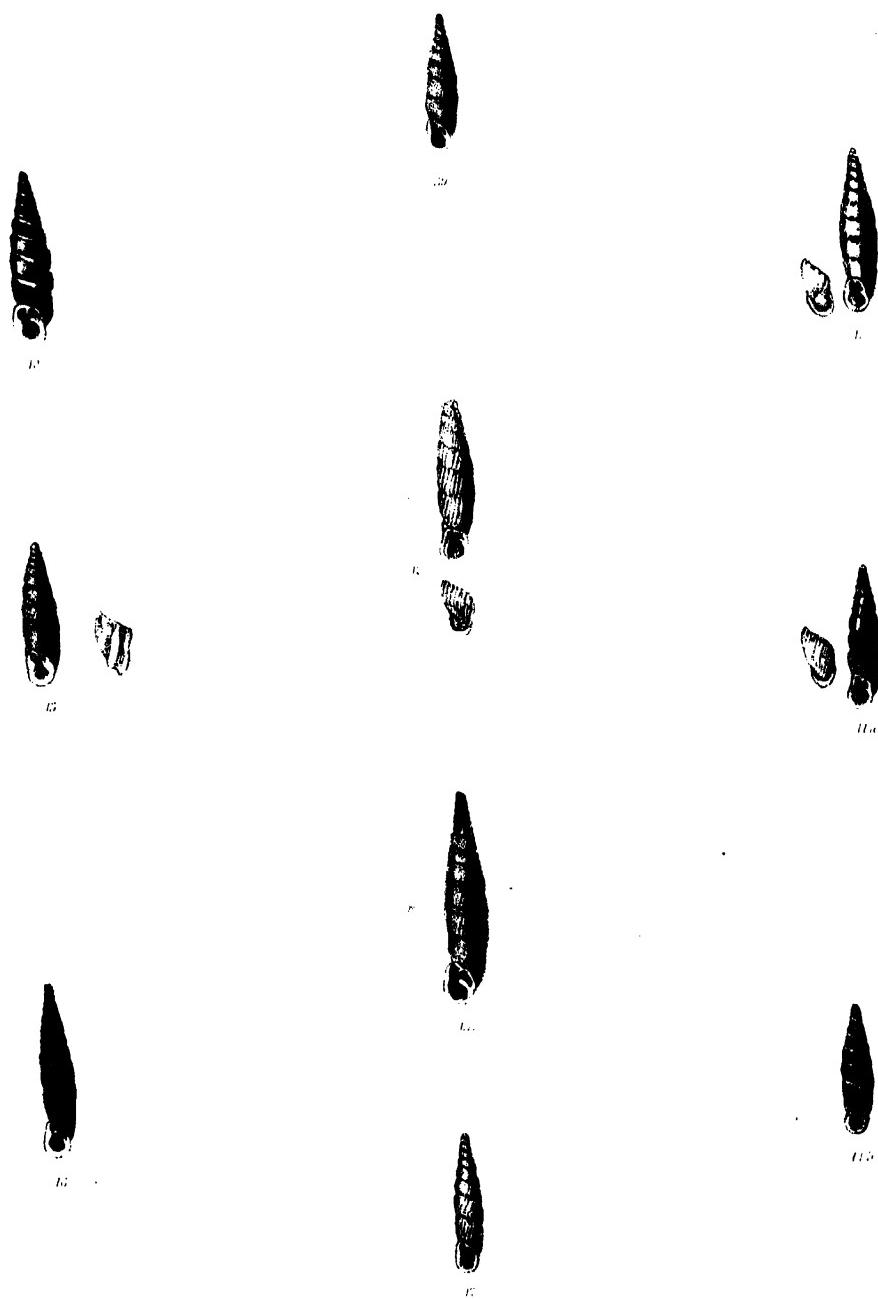
Species 38. (Mus. Sowerby.)

CLAUSILIA LUNULARIS. *Cla. testā griseo-fuscā, tenuissimè striatā, subventricosā; anfractibus 8, medianis inflatis, ultimo ad dorsum medio contracto; aperturā subauriformi, margine tenui, expanso, reflexo; plicis superiori et columellari parvis, approximatis.*

THE LUNULAR CLAUSILIA. Shell grey-brown, very finely striated, rather ventricose; whorls eight, the middle ones inflated, the last contracted in the middle at the back, aperture rather auriform, margin thin, expanded, reflected; upper plait and columellar plait small, approximate.

PFEIFFER. Monograph Heliceorum, iii. p. 608.

Hab. Eubœa.



CLAUSILIA.

PLATE V.

Species 39. (Mus. Sowerby.)

CLAUSSILIA ORTHOSTOMA. *Cla. breviter fusiformi fusco-purpureâ, levigatâ; anfractibus 10, convexisculis, ad suturam crenulatis; ultimo anfractu rimato; aperturâ rectâ, oblongâ, margine albo, paulò reflexo, margine esterno propè suturam calloso, plicis superiori et columellari tenuibus, approximatis.*

THE STRAIGHT-MOUTHED CLAUSSILIA. Shell shortly fusiform, purple-brown, smooth; whorls ten, rather convex, crenulated at the suture; last whorl notched; aperture straight, oblong, margin white, a little reflected, outer margin callous near the suture, upper and columellar plait thin, approximate.

MENKE. Synopsis? Pfeiffer Mon. ii. p. 402.

Clausilia filiformis, Parreyss.

Clausilia tenuata, Zeigler.

Hab. Germany. Hungary, &c.

Species 40. (Mus. Sowerby.)

CLAUSSILIA PLUMBEA. *Cla. testâ brevi, ventricosâ, purpureâ fusca, levigatâ; anfractibus 10, convexis, supérne ad suturam albo tæniatis, medianis ventricosis, ultimo profundè rimato, ad dorsum depresso, infrâ subcarinato, aperturâ albâ, latè biplicatâ, majusculta, margine reflexo, expanso.*

THE PLUM-COLOURED CLAUSSILIA. Shell short, very ventricose, purple-brown, smooth; whorls ten, convex, banded with white above at the suture, middle ones ventricose, last deeply notched, depressed at the back, subcarinated below; aperture white, with two broad plaits, rather large, margin reflected, expanded.

ROSMASSLER —? Pfeiffer Mon. ii. p. 401.

Hab. Transylvania.

Species 41. (Mus. Sowerby.)

CLAUSSILIA SEMIRUGATA. *Cla. testâ griseo-albida, lamellis tenuibus liratâ; anfractibus paucis, elevatis,*

medio levigatis, ad suturam tæniâ fusa tuberculis albis interruptâ cinctis; ultimo rimato, obliquè angustato, ad dorsum compresso, infrâ tumido, subcarinato; aperturâ subauriformi, margine tenui, plicâ columellari latâ, atâ.

THE HALF-WRINKLED CLAUSSILIA. Shell whitish-grey, ridged with thin lamellæ; whorls few, raised, smooth in the middle, belted at the suture with a narrow band interrupted by white tubercles, the last notched, obliquely narrowed, flattened at the back, tumid below, partly keeled; aperture rather auriform, margin thin, columellar plait broad, white.

ZEIGLER. Vert. Claus. p. 29.

Clausilia prunilia, Parreyss.

Clausilia pygmaea, Zeigler.

Clausilia nitida, Müllfeldt.

Clausilia Chersonensis, Ferr.

Clausilia rugata, Parreyss.

Clausilia fasciolaris, Parreyss.

Hab. Dalmatia.

Species 42. (Mus. Sowerby.)

CLAUSSILIA STRANGULATA. *Cla. testâ brevissimâ, laminatum liratâ, griseo-fulrâ; anfractibus 8, convexisculis, ultimo attenuato, rimato, brevissime soluto, ad dorsum coarctato, tumidè birugato; aperturâ oblongâ, margine tenui, subexpanso.*

THE STRANGLING CLAUSSILIA. Shell rather short, ridged with laminæ, fulvous-grey; whorls eight, rather convex, the last attenuated, notched, very shortly uncoiled, pressed in at the back with two tumid wrinkles; aperture oblong, margin thin, rather expanded.

FERRUSSAC —? Pfeiffer Mon. ii. p. 467.

Clausilia retusa, Parreyss.

Hab. Syria.

This curious little shell is pressed and knotted behind the aperture so as to give the appearance of strangulation.

CLAUSILIA.—PLATE V.

Species 43. (Mus. Sowerby.)

CLAUSILIA VALLATA. *Cla. testā brevi, subventricosā, cornēd; anfractibus 8, convexiūsculis; ultimo rimato, ad dorsum compresso, propè aperturā varice albo, plicaeformi vallatā; aperturā albā, margine crasso, plicā columellari crassā, plicā superiori tenui.*

THE WALLED CLAUSILIA. Shell short, subventricose, horny; whorls eight, rather convex; the last notched, compressed at the back, walled near the aperture with a white, plait-like varix; aperture white, margin thick, columellar plait thick, upper plait thin.

MOUSSON. Ms. Pfeiffer Monog. 1868, p. 453.

Clausilia vellata, Adams.

Hab. Epirus.

Species 44. (Figs. a, b, Mus. Sowerby.)

CLAUSILIA RUGOSA. *Cla. testā parvā, subventricosā, tenuiter liratā, fusca, anfractibus 10, convexis, ultimo angustato, aperturā auriformi, margine plicisque albis, plicis unā brevi superiori, unā inferiori, propè marginem externum conspicua, unā latā, columellari, cum unā parvā infra.*

THE RUGOSE CLAUSILIA. Shell small, rather ventricose, finely ridged, brown, whorls ten, convex, the last narrow, aperture auriform, margin and plaits white; plaits, one short upper, one placed near the lower margin, one lateral conspicuous near the outer margin, one broad, columellar with one small underneath.

Clausilia Reboulii, Charpentier.

Clausilia pyrenaea, Charpentier.

Clausilia crenulata, Ferrussac.

Clausilia perversa, Moquin.

Hab. France. Northern Italy.

Species 45. (Mus. Sowerby.)

CLAUSILIA TRISTAMI. *Cla. testā elongato-fusiformi, purpureo-fusca, tenuiter liratā, anfractibus 14, ultimo rimato; aperturā latā, biplicatā, margine albo, levigato, angusto.*

TRISTAM'S CLAUSILIA. Shell elongated fusiform, purple-brown, finely ridged; whorls fourteen, high, the last notched; aperture broad, two plaited, margin white, smooth, narrow.

PFEIFFER. Proc. Zool. Soc. 1860.

Hab. Mount Atlas, Tunctan.

Species 46. (Mus. Sowerby.)

CLAUSILIA SHANGHAIENSIS. *Cla. testā elongato-fusiformi, levigatā, politā, cornēd; anfractibus 12, convexiūsculis, ultimo vix rimato, obliquè attenuato; aperturā oblongā, biplicatā, margine crasso, levi, albo, reflexo.*

THE SHANGHAI CLAUSILIA. Shell elongated fusiform, smooth, polished, horny; whorls twelve, rather convex; the last hardly notched, obliquely attenuated; aperture oblong, with two plaits; margin thick, smooth, white, reflected.

PFEIFFER. Monograph iii. p. 410.

Hab. Shanghai, near China.

Species 47. (Mus. Sowerby.)

CLAUSILIA STIMPSONI. *Cla. testā parvā, albida, tenui, gracili, tenuiter liratā; anfractibus 10, ultimo elongato; aperturā parvā, biplicatā, fulva, margine crassiūsculo, plicā columellari obliquè elevata, vix prominenti.*

STIMPSON'S CLAUSILIA. Shell small, whitish, thin, slender, finely ridged; whorls ten, the last elongated; aperture small, with two folds, fulvous, margin rather thick, columellar plait obliquely raised, scarcely prominent.

A. ADAMS. Mart, Ostas. Zool. ii. p. 83.

Hab. Japan.



48



49



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51



52



53



53 a



54



55



56

CLAUSILIA.

PLATE VI.

Species 48. (Mus. Hanley.)

CLAUSILIA BACILLUM. *Cla. testa fusiformi, pallidè aurantiæ, lævi; anfractibus 9, convexis, medianis ventricosis, ultimis contractis; aperturæ oblongæ, albæ, supernæ cuneatæ, plicæ superiori validæ; plicæ columellari elongatæ, obliquæ.*

THE WALKING-STICK CLAUSILIA. Shell fusiform, pale orange, smooth; whorls nine, convex, the middle ones ventricose, the last contracted; aperture oblong, white, covered above, upper plait strong; columellar plait elongated, oblique.

BENSON. MS. Hanley, Conchologia Indica, p. 12.

Hab. Nanclai, Khasi Hills.

There appear to be only two specimens of the species known.

Species 49. (Mus. Brit.)

CLAUSILIA PARREYSSII. *Cla. testa subpyramidalis, minutè interruptim lirata, fusco-rubescens, infra medium ventricosæ; anfractibus 9, inferioribus altis, ad suturam tenuissimè plicatis; aperturæ magnæ, biplicatae, labio externo supra medium sinuato; plicæ superiori parvæ, incurvæ; plicæ columellari, atæ, latiusculæ.*

PARREYSS' CLAUSILIA. Shell somewhat pyramidal, minutely interruptedly ridged, reddish brown, ventricose below the middle; whorls nine, the lower ones elevated, very finely plaited at the suture; aperture large, with two plaits; outer lip situated above the middle; upper plait small, curved inwards; columellar plait elevated, rather broad.

ZEIGLER. Pfeiffer, Monograph. II. p. 400.

Clausilia marmorata, Parreyss.

Clausilia cerea, Menke.

Hab. Carpathian Mountains.

Species 50. (Mus. Brit.)

CLAUSILIA ANGUSTATA. *Cla. testa rimata, fusiformi, tenui, lærigata, conspicue attenuata, apice acuto, suturæ albosigillæ; anfractibus 10-11, planulatis, ultimo infre gibbo, striato; aperturæ vix obliquæ, oblongo-ovali; plicæ superiori compressed, marginum*

non-attengenti, inferiori validæ, tortuosæ; plicæ internis 4, inæqualibus; peristomate continuo soluto, albo, angustè reflexo.

THE NARROW CLAUSILIA. Shell notched, fusiform, thin, smooth, conspicuously attenuated, with acute apex, suture white-threaded; whorls ten or eleven, flattened, last gibbose below, striated; aperture very slightly oblique; oblong-ovate; upper plait compressed, not touching the margin, lower plait strong, tortuous, inner plaits four, unequal; peristome continuous, detached, white, narrowly reflected.

Hab. Pfeiffer.

Hab. Transylvania.

Species 51. (Mus. Benson, Hanley.)

CLAUSILIA BULBUS. *Cla. testa pupæformi, ventricosissimæ, castaneæ, rimata; anfractibus 4, duobus apicalibus parvissimis, tertio magno, alto, valde inflato, ultimo alto, versus aperturam angustato; aperturæ parvæ, auriculiformi, peritreme pallide curneo, crasso, reflexo, columellæ biplicata.*

THE BULB CLAUSILIA. Shell pupiform, very ventricose, chestnut, notched; whorls four, two apical, rather small, third large, elevated much inflated, last elevated, narrow towards the aperture; aperture small, ear-shaped, peritreme pale flesh, thick, reflected, columella with two folds.

BENSON. Annals of Natural History, 1863.

Hab. Near Moulmein, Birmah.

Resembling *Clausilia Philippiana*, but with the whorls fewer, much more inflated and unequal.

Species 52. (Fig. a, b, Mus. Brit.)

CLAUSILIA VALIDA. *Cla. testa subfusiformi, solidæ pallidæ cornæ, vel flavidæ, medio anfractuum late unifasciatæ, tenuiter lirata; anfractibus 8-9 altis, subcylindricis, medianis inflatis, ultimo altissimo, versus aperturam attenuato; aperturæ magnæ, altissimæ auriformi, plicæ superiori elongatæ, plicæ super-columellanæ unæ validæ, elongatæ, alteræ parvæ, inferiori.*

CLAUSILIA.—PLATE VI.

THE STRONG CLAUSILIA. Shell rather fusiform, solid, pale horny, or yellowish with a broad band in the middle of the whorls, finely ridged; whorls eight to nine, elevated, rather cylindrical, middle ones inflated, last very high, attenuated towards the aperture; aperture large, very high, auriform, upper plate elongated, plaits on the columella, one strong, elongated, the other small, lower.

PFEIFFER. Monographia Heliceorum III.
Hab. Lien Kien.

Species 53. (Mus. Hanley.)

CLAUSILIA INSIGNIS. *Cla. testâ fusiformi, rimatâ, castaneâ, lavigatâ, propè suturam fasciat pallidâ cinctâ; anfractibus 9, convexis, gradatim versus terminos attenuatis; ultimo altissimo; aperturâ subtrigonâ, margine purpureo crasso; labio externo lato, supernè incrassato, sinuato; plicis superiori et columellari validis.*

THE WONDERFUL CLAUSILIA. Shell fusiform, notched, chestnut, smooth, girt with a pale band near the suture; whorls nine, convex; gradually attenuated towards the end; last very high; aperture nearly trigonal, margin purple, thick, outer lip broad, thickened and sinuated above; upper and columellar plaits strong.

GOULD. Proceedings of the Boston Society of Natural History.

Hab. Tavoy, Birmah.

Species 54. (Mus. Brit.)

CLAUSILIA MARGINATA. *Cla. testâ fusiformi, solidâ, fusco-cornuta, lavigatâ; anfractibus 10, ad suturam filo-marginatis, apicalibus 6 contractis, inferioribus ventricosis, ultimo rimato, aperturâ contractâ, elevatâ, margine crasso, labio externo ad medium sinuatis plicato, plicis superiori et columellari crassis, magnis.*

THE BORDERED CLAUSILIA. Shell fusiform, solid, brown-horn, smooth; whorls ten, thread-bordered at the suture, the six towards the apex contracted, lower ones ventricose, last notched; aperture contracted, elevated, margin thick, outer lip with a sinuous plait in the middle; upper and columellar plaits thick, large.

ZEIGLER.

Clausilia Democletiana, Menke.
Clausilia bilabiata, Fr.
Clausilia vitrea, Bietz.
Hab. Transylvania.

Species 55. (Mus. Brit.)

CLAUSILIA BINOTATA. *Cla. testâ breviusculâ, subpyramidalâ; pallidè succinæ; anfractibus 9, breviusculis ad suturam denticulato-plicatis, apicalibus sensim contractis, medianis convexis, ultimo ad dorsum lineis pallidis semilunaribus duabus notato; aperturâ latâ, margine externo supra medium sinuatim plicato, columellâ biplicatâ.*

THE TWO-MARKED CLAUSILIA. Shell rather short, rather pyramidal; pale amber; whorls nine, rather short, with tooth-like plaits at the suture, three apical, sensibly contracted; middle convex, last marked at the back with two pale semilunar lines; aperture broad, external margin with a sinuous plait above the middle; columellar with two plates.

ROSMÄSLER. Pfeiffer, Monograph. II.
Clausilia consentanea, Ziegler.
Clausilia bipustulata, Küster.
Hab. Istria.

Species 56. (Mus. Brit.)

CLAUSILIA ITALA. *Cla. testâ fusiformi, fusco-plumbeâ, medio ventricosâ; anfractibus 9-10, ad suturam denticulato-plicatis, apicalibus sensim contractis, medianis inflatis, ultimo infrâ angustato, ad dorsum lineâ pallidâ flexuosa notato; aperturâ subovatâ, labio externo intus incrassato, plicis superiori et columellari superiori elongatis, inferiori parvâ.*

THE ITALIC CLAUSILIA. Shell fusiform, plum-brown, ventricose in the middle; whorls nine to ten, with tooth-like plaits on the suture, apical sensibly contracted, middle inflated, last narrowed below, marked with a flexuous pale line on the back.

MARTENS. Pfeiffer, Monog. II.
Clausilia alboguttulata, Meyner.
Clausilia punctata, Michaud.
Clausilia crenata, Menke.
Hab. Lombardy; Tyrol; Badia, &c.





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CLAUSILIA.

PLATE VII.

Fig. 53 b. (Mus. Benson.)

CLAUSILIA INSIGNIS. This shell is figured in Mr. Hanley's work on Indian Shells as a more slender variety of the species figured in Plate VI.

Species 57. (Mus. Brit.)

CLAUSILIA BILABIATA. *Cla. testa brevi, fulva, laevi, anfractibus 9, brevibus, medianis ventricosis, ad suturam minutissimè plicatis; apertura subquadrata, margine crasso, labio interno biplicato, labio externo duplicato, suprà medium plicat dentiformi sinuato.*

THE DOUBLE-LIPPED CLAUSILIA. Shell short, fulvous, smooth, whorls 9, short, middle ventricose, very finely plaited at the suture; aperture rather square, margin thick, inner lip with two plaits, outer lip doubled, sinuated with a tooth-like plait above the middle.

WAGNER. Pfeiffer, Mon. II.

Clausilia reflexa, Zeigler.

Clausilia reflexilabris, Cautraine.

Clausilia labiocrassa, Mühlfeldt.

Clausilia planilabris, Rossmüller.

Hab. Dalmatia.

Remarkable for the thickness and double character of the outer lip.

Species 58. (Mus. Brit.)

CLAUSILIA SANDERII. *Cla. testa fusiformi, obscurè roseobalbida, laevi, medio ventricosissima, anfractibus 10-11, apicalibus parvis, medianis inflatis, altis, ultimo rimato, versus aperturam contracto, apertura magna, margine crasso; labio columellari valide biplicato, labio externo suprà medium sinuatim tumido.*

SANDER'S CLAUSILIA. Shell fusiform, dull rose-white, smooth, very ventricose in the middle; whorls 10-11, apical small, middle inflated, high, last notched, contracted towards the aperture; aperture large, margin thick, columellar lip strongly plaited, outer lip sinuously swelled above the middle.

KÜSTER. Pfeiffer, Mon. II.

Clausilia honorifica, Parreyss.

Clausilia magnifica, Parreyss.

Hab. Dalmatia.

Species 59. (Mus. Brit.)

CLAUSILIA SUMATRANA. *Cla. testa solidà, brevi, ventricosa, plumbea et succinata, anfractibus 8, supernè albo-fasciatis, 6 apicalibus convexis, brevibus, penultima alto, ventricoso, ultimo alto infra contracto; apertura auriformi, magna, biplicata, labio externo medio tumido, plicat columellari obliquè tortuosa.*

THE SUMATRA CLAUSILIA. Shell solid, short, ventricose, plum-coloured and amber; whorls 8, white-banded above, 6 apical convex, short, penultimate high, ventricose, last high, contracted below; aperture auriform, large, biplicate, outer lip swelled in the middle, columellar plait obliquely tortuous.

MARTENS. Berlin Akad. Pfeiffer, Mon. VI.

Hab. Island of Sumatra.

Species 60. (Mus. Benson.)

CLAUSILIA OVATA. *Cla. testa brevi, ventricosa, fumosocastanæ, levigata, solidâ, anfractibus 6, supernè albo-faciatis, duobus apicalibus parvis, brevibus, tribus, medianis altis, inflatis, ultimo altissimo, rimato, versus aperturam subcontracto; apertura auriformi, margine purpurascens, crassiùculo, rotundo, plicat superiori parvâ, plicat columellari elevata, tenui, parvâ.*

THE OVATE CLAUSILIA. Shell short, ventricose, smoky-chestnut, smooth, solid; whorls 6, white-banded above, two apical small, short, three middle high, inflated, last very high notched, a little contracted towards the aperture; aperture auriform, margin purplish, rather thick, rounded, superior plait small, columellar plait raised, thin, small.

BLANFORD. Journal of Asiatic Society of Bengal, 1872.

Hab. Tonghu, Birmah.

CLAUSILIA.—PLATE VII.

Species 61. (Mus. Benson.)

CLAUSILIA LOXOSTOMA. *Cla. testa fusiformi, fusco-cornuta, levigata; anfractibus 9, ad suturam plicatis, medianis ventricosis, altis, ultimo alto, infra subangustato, rimato; aperturam magnam, obliquam subtrigonam, margine reflexo, albo, planiusculo, labio externo superne sinuatim tumido, labio interno biplicato.*

THE OBLIQUE-MOUTHED CLAUSILIA. Shell fusiform, horn-brown, smooth; whorls 9, plaited at the suture, the middle ones ventricose, high, last high, rather narrowed below, notched; aperture large, obliquely subtrigonal, margin reflected, white, rather flat, outer lip sinuously swelled above, inner lip biplicate.

BENSON: Pfeiffer, Mon. II. p. 404.

Clausilia Bengalensis, Busch.

Hab. Bengal.

Species 62. (Mus. Hanley.)

CLAUSILIA FUSIFORMIS. *Cla. testa flavidula, minutè striata, fusiformi, ventricosæ; anfractibus 8, convexis, versus apicem gradatim angustatis, medianis ventricosis, altis, ultimo angustiori, altissimo; aperturam albâ, auriformi, margine crasso, labio externo propè suturam sinuatim angustato, medio et infra tumido; labio interno biplicato, plicâ columellari alto, planato.*

THE FUSIFORM CLAUSILIA. Shell yellow, minutely striated, fusiform, ventricose; whorls 8, convex, gradually narrowed towards the apex, middle ventricose, high, last narrower, very high; aperture white, auriform, margin thick, outer lip sinuously narrowed near the suture, tumid in the middle and below; inner lip with two plaits.

BLANFORD. Contributions to Indian Malacology, v. 1865, p. 16.

Hab. Arakan Mountains.

Species 63. (Mus. Brit.)

CLAUSILIA CYCLOSTOMA. *Cla. testa fusco-rubescenti, tenuiter lirata, brevi, fusiformi; anfractibus 9, apicalibus parvis, medianis altis ventricosis, ultimo altissimo, rimato, ad dorsum obliquam bivaricosa; aperturam latam, rotundam, margine albo, crasso, late reflexo, plicis labii interni parvis, acutis.*

THE ROUND-MOUTHED CLAUSILIA. Shell reddish-brown, finely ridged, short, fusiform; whorls 9, apical small, middle high, ventricose; last very high,

notched, with two oblique varices at the back; aperture broad, rounded, margin white, thick, broadly reflected, plaits of the inner lip small, acute.

PFEIFFER. Monographia Helicorum, IV. p. 784.

Hab. Central America.

Species 64. (Mus. Brit.)

CLAUSILIA CATTAROENSIS. *Cla. testa subpyramidalata, medio paulò inflatula, plumbea et castanea; anfractibus 11, albo, marginatis, apicalibus 6, parvis, brevibus, medianis latioribus, ad latera rectiusculis, ultimo alto, versus aperturam vix angustato; aperturam magnam, subquadratam, plicâ superiori validâ, plicâ columellari alta, obliquâ, plicis intertis superne duabus linearibus, infra columellam, unde parvâ, obliquâ.*

THE CATTARO CLAUSILIA. Shell somewhat pyramidal, a little inflated in the middle, plum-coloured and chestnut; whorls 11, white-bordered, 6 apical small, short, middle wider, rather straight at the sides, last high, scarcely narrowed towards the aperture; aperture large, subquadrate, upper plait strong, columella plait high, oblique, inner plaits two linear above, one small, oblique, below the columella.

ZEIGLER. Pfeiffer, Monog. II. 437.

Clausilia laevigata, Mühlf.

Clausilia lesinacensis, Parreyss.

Hab. Cattaro.

Species 65. (Mus. Hanley? copied.)

CLAUSILIA TURRITELLA. *Cla. testa flavidula, angustissima, elongatula, pyramidalata; anfractibus 14, lentè crescentibus, convexiusculis, ultimo oblongo; aperturam oblongo-subquadratam, supra columellam uniplicatam, columellâ rectâ.*

THE TURRITELLA CLAUSILIA. Shell yellow, very narrow, elongated, pyramidal; whorls 14, slowly increasing, rather convex, last oblong; aperture oblong, rather square, with a single plait over the columella, columella straight.

SOWERBY.

Clausilia cylindrica, Hanley, as of Gray, MS.

Hab. Landour.

This shell seems so different from the type specimens in the Brit. Mus. that after figuring it I have felt compelled to give it a new name.



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CLAUSILIA.

PLATE VIII.

Species 66. (Mus. Brit.)

CLAUSILIA SUCCINEATA. *Cla. testa parva, brevi, subfusiformi, obscurè succinæ, tenuissimè striatâ, anfractibus 10, apicalibus 5 parvis, attenuatis; medianis ventricosis, ultimo elongato, ad dorsum plaito; aperturâ ovatâ, plicâ superiori subdistanti, plicâ columellari magnâ; labio externo supra medium dentiformi, tumido.*

THE AMBER CLAUSILIA. Shell small, short, subfusiform, dull amber, very finely striated, whorls 10; apical 5 small, attenuated, middle ventricose, last plaited at the back; aperture ovate, upper plait rather distant, columellar plait large; outer lip with a tooth-like swelling above the middle.

ZEIGLER. Pfeiffer, Monograph. II.

Clausilia nymphæ, et C. striatocollis, Parreyss.

Hab. Croatia.

Species 67. (Mus. Brit.)

CLAUSILIA FIMBRIATA. *Cla. testa brevi, ventricosa, fusiformi, albida, levigata; anfractibus 10, ad suturam fibrati, convexis, apicalibus sensim attenuatis, medianis magnis, ultimo altiusculo, propè aperturam contracto, ad dorsum propè marginem tumido; aperturâ subquadratâ, labio externo supra medium sinuatim tumido, subdentato; plicâ columellari latâ, plicâ superiori parvo.*

THE FRINGED CLAUSILIA. Shell short, ventricose, fusiform, whitish, smooth; whorls 10, fringed at the suture, convex, the apical ones notably attenuated, middle large, but rather high, contracted near the aperture, tumid near the margin at the back; aperture rather square, outer lip sinuated with a tooth-like swelling about the middle, columellar fold broad, upper fold small.

MUHLFELDT. Pfeiffer, Mon. II. p. 399.

Clausilia saturata and *Cl. phalerata*, Zeigler.

Clausilia virens, Mühlfeldt.

Clausilia styriaca, Parreyss.

Hab. Illyria—Croatia.

Species 68. (Mus. Brit.)

CLAUSILIA BLANDA. *Cla. testa subpyramidalis, levigata, pallidè succinæ, semipellucidâ; anfractibus 10, apicalibus tribus parvis, convexis, alteris subventricosis, ad latera rectiusculis; ultimo alto; apertura subovata, margine albo, tenuiusculo, labio externo propè suturam unidentato, labio interno lato, plicâ superiori parva, plicâ columellari latâ, inferiori parva, validâ.*

THE BLAND CLAUSILIA. Shell rather pyramidal, smooth, pale amber, semi-pellucid; whorls 10, three at the apex small, convex, the others rather ventricose, rather straight at the sides, last high, aperture rather ovate, margin white, rather thin, outer lip with a tooth near the suture, inner lip broad, upper plait small, columellar plait broad, lower small, strong.

ZEIGLER. Pfeiffer, Mon. II. p. 448.

Clausilia castanea, Küster.

Clausilia strigata, Mühlfeldt.

Hab. Dalmatia.

Species 69. (Mus. Theobald? copied.)

CLAUSILIA MASONI. *Cla. testa fusiformi, fuscâ, gracili, anfractibus 10, medianis et inferioribus altis, obliquè ventricosis, propè suturam depresso, ultimo elongato, attenuato, supra aperturam profundè rimato; apertura maximâ, marginè effuso, labio interno supernè triplicato.*

MASON'S CLAUSILIA. Shell fusiform, brown, rather slender, whorls 10, middle and lower high, obliquely ventricose, depressed near the suture, last elongated, attenuated, deeply notched above the aperture; aperture very large, margin effuse, inner lip three-plaited above.

THEOBALD. Journal of Asiatic Society of Bengal, v.

Hab. Near Tongho mountains, Pegu, and Martaban.

Species 70. (Mus. Crosse? copied.)

CLAUSILIA SANDBERGERI. *Cla. testa rimatâ, solidâ, fusiformi, ventricosa, regulariter tenuissimè liratâ,*

CLAUSILIA.—PLATE VIII.

griseo-cornēa, albo strigatā; anfractibus 12, apicalibus angustis, brevibus, alteris tumidis usque ad ultimum gradatim crescentibus; aperturā ovatā, margine tenui, albo, labio interno triplicato, plicā superiori validā, plicā columellarī superiori latā, inferiori parvā.

SANBERGER'S CLAUSILIA. Shell notched, solid, greyish-horn, striped with white, whorls 12, the apical ones narrow, short, the others tumid, gradually increasing to the last; aperture ovate, margin thin, white, inner lip with three plaits; upper plait strong, upper columellar plait broad, lower small.

MOUSSON. Crosse, Journal de Conchyliologie, 1873.

Hab. Borschom, Russia.

Species 71. (Mus. Crosse? copied.)

CLAUSSILIA FUNICULUM. *Cla. testā subcylindricā, pallidissimē cornēa, tenuiter lirata; anfractibus 8-9, altis, paulò convexis, gradatim crescentibus, ultimo obliquè descendentē; aperturā pyriformi, labio externo tenui, labio interno super anfractuum ultimum paralleliter quadriplicato.*

THE LITTLE-CHIMNEY CLAUSILIA. Shell subcylindrical, very pale horn, finely lirated; whorls eight to nine, high, a little convex, gradually increasing; last obliquely descending; aperture pyriform, outer lip thin; inner lip with four parallel plaits upon the body whorl.

MOUSSON. Crosse, Journ. de Conchyliologie, 1873.

Hab. —?

The four parallel plaits on the part of the inner lip where it laps over the body whorl is a peculiar characteristic of this species.

Species 72. (Mus. Hanley.)

CLAUSSILIA TUBA. *Cla. testā elongatā, eleganter fusiformi, tenuiter liratā; anfractibus 12, obliquis, versūs apicem sensim attenuatis, brevibus, medianis altis, ultimo elongato, suprad aperturam obliquè rimato; aperturā maximā, auriformi, margine albo, effuso, expanso, labio interno medio biplicato, plicis validis, approximatis.*

THE TUBE CLAUSILIA. Shell elongated, elegantly fusiform, finely ridged; whorls twelve, oblique,

sensibly attenuated towards the apex, middle high, last elongated, obliquely notched above the aperture; aperture very large, auriform, margin white, effuse, expanded, inner lip with two plaits in the middle, plaits strong, approximate.

HANLEY. Proc. Zool. Soc., 1868.

Hab. Shan States.

Species 73. (Mus. Brit.)

CLAUSSILIA GRACILICOSTA. *Cla. testā gracili, fusiformi, tenuiter regulariter liris laminiformibus sculptā, anfractibus 12, gradatim in medio inflatis, ad laterā rectiūsculis, ultimo profundè rimato, antē rimam obliquè carinato, propè aperturam soluto; aperturā ovatā, rectiā, infra subacuminatā, intus rimatā, labio externo suprī medium siuatum tumido, labio interno angusto, plicā superiori brevi, plicā columellarī altā.*

THE THIN-RIBBED CLAUSILIA. Shell slender, fusiform, regularly sculptured with thin laminated ridges; whorls twelve, gradually inflated in the middle, rather straight at the sides, the last deeply notched, obliquely keeled in front of the notch, uncoiled near the mouth; aperture oval, straight, rather acuminate below, notched within; outer lip sinuously tumid above the middle; inner lip narrow, upper plait short, columella plait high.

ZEIGLER. Pfeiffer, Monograph. II. 414.

Clausilia rufida and *Clausilia porcata*, Zeigler.

Hab. Russian Mountains.

Species 74. (Mus. Brit.)

CLAUSSILIA CRASSICOSTATA. *Cla. testā pallidē fulvā, brevi, fusiformi, costis solidis subdistantibus, rectiūsculis, liratā, medio ventricosā; anfractibus paucis, apicalibus sensim contractis, medianis altis, ad laterā rectiūsculis, ultimo altissimo, infra attenuato, profundè rimato, costis ad dorsum infra undatis; aperturā obliquā, margine effusa, reflexa, albā, labio externo crasso, labio interno angusto, plicis columellarī et superiori validis, approximatis.*

THE THICK-RIBBED CLAUSILIA. Shell pale fulvous, short, fusiform, ridged with solid, rather distant, rather straight ribs, ventricose in the middle; whorls few, apical ones notably contracted, middle

CLAUSILIA.—PLATE VIII.

high, rather straight at the sides, last very high, attenuated below, deeply notched, ribs waved at the lower part of the back; aperture oblique, margin effuse, reflected white, outer lip thick, inner lip narrow; columella and upper plaits strong, approximate.

BENSON. Pfeiffer, Monograph. IV. p. 733.

Hab. Sicily.

Species 75. (Mus. Benson, Hanley.)

CLAU^SSILIA Jos. *Cla. testâ brevi, fusiformi, cornicâ, lirati, medio inflati; anfractibus medianis altis, ultimo altissimo rimato, aperturâ subtrigonâ,*

margine albo, tenuiâsculo, labio externo propè suturam sinuato suprâ medium tumido; labio interno biplicato; plicâ superiori distantâ, brevi, plicâ columellari obliquâ, valûlâ.

THE JOS CLAU^SSILIA. Shell short, fusiform, horny, ridged, middle inflated; middle whorls high, the last very high, notched, aperture nearly trigonal, margin white, rather thin, outer lip sinuous near the suture, tumid above the middle; inner lip with two folds; upper fold distant, short; columellar fold oblique, strong.

BENSON. Pfeiffer, Monograph. IV. p. 761.

Hab. Darjiling, Himalayas.







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C L A U S I L I A.

PLATE IX. ·

Species 76. (Mus. Brit.)

CLAUSILIA BIDENS. *Cla. testū pareā, ventricosā, fere albā, brevi, lavigatā; anfractibus 8, medianis ventricosis, ad suturam minutē distanter plicatis, ultimo infrā subcontracto, aperturā latē ovatā intus prop̄ marginem extēnum incrassato, labio interno tenui, plicā superiori minutā, plicā columellari magnā.*

THE TWO-TOOTHEO CLAUSILIA. Shell small, ventricose, nearly white, smooth; whorls eight, middle ones ventricose, minutely distantly plaited at the suture, last a little contracted below; aperture broadly ovate, thickened within near the outer margin, inner lip thin, upper plait minute; columellar plait large.

LINNEUS. Syst. Nat. Pfeiffer Monog. VI. 454.

Helix papillaris, Bruguière, &c.

Clausilia Mediterranea, Gray.

Clausilia ritraa, Steutz.

Clausilia virgata, Jan.

Clausilia sulciana, Gené.

Hab. Countries of the Mediterranean.

Species 77. (Mus. Brit.)

CLAUSILIA DUBIA. *Cla. testū plumbeā, parvā, subfusiformi, regulariter liratā; anfractibus 10, ultimo paulo contracto, aperturā majuscūlā, obliquā, plicis palatalibus prominentibus, plicā superiori labii interni acutā, plicā columellari duplicatā.*

THE DOUBTFUL CLAUSILIA. Shell plum-coloured, small, rather fusiform, regularly ridged; whorls ten, last a little contracted; aperture rather large, oblique, palate plaits prominent, upper plait of the inner lip sharp, columellar plait duplicate.

DRAFANAUD. Moll. fluv. et ters.

Clausilia speciosa, Hindobonensi, Transylvanica, Tettelbachianæ et gracile, Pfeiffer.

Clausilia Schlectii, Zeleb.

Clausilia abistana, Dupuy.

Hab. Central Europe.

Species 78. (Mus. Hanley.)

CLAUSILIA ARAKANA. *Cla. testū fusiformi-pyramidalis, flavidā, lavigatā; anfractibus 12, suprā medium*

sensim contractis, brevissimis, infrā medium convexis, ventricosis; aperturā albī, margine externo suprā medium tumido, labio interno biplicato, plicā columellari elevatā.

THE ARAKAN CLAUSILIA. Shell fusiform, pyramidal, yellow, smooth; whorls twelve, those above the middle notably contracted; very short below the middle convex, ventricose; aperture white, outer margin tumid above the middle; inner lip with two plaits, columellar plait elevated.

THEOBALD. Journ. Asiat. Soc. Bengal, 1872.

Hab. Moulmein, Birmah.

Species 79. (Mus. — Copied.)

CLAUSILIA INDEX. *Cla. testū pupaformi, tenuiter striatā, ventricosā, fuscā, castaneo strigatā, anfractibus 10, apicalibus 5, lateribus, alteris convexis, altiusculis; aperturā ovatā, margine fulvo, labio interno triplicato, plicis aequidistantibus, breviribus.*

THE INDEX CLAUSILIA. Shell pupa-shaped, finely striated, ventricose, brown, striped with chestnut, whorls ten, five apical smooth, the others convex, rather higher; aperture ovate, margin fulvous, inner lip with three equidistant short plaits.

MOUSSON. Crosse, Journ. de Conch., 1873, p. 215.

Hab. Borschom, in Russia.

Species 80. (Mus. Brit.)

CLAUSILIA CECILLEI. *Cla. testū fusiformi-pyramidalis, solidā, leviter striatā; corneo-plumbed, medio et infrā ventricosā, anfractibus 12, apicalibus 7 contractis, brevibus, alteris gradatim latioribus, altis: aperturā oblongā, margine albo, crasso; prop̄ suturam sinuato, attenuato, labio interno biplicato.*

CECILLE'S CLAUSILIA. Shell fusiform, pyramidal, solid, lightly striated, horny-plum-coloured; ventricose in the middle and under; whorls twelve, apical ones seven, contracted, short, the rest gradually broader, elevated; aperture oblong, margin white, thick, sinuous near the suture, attenuated, inner lip biplicate.

PHILIPPI. Pfeiffer, Novit. Conch., p. 122.

Hab. China.

CLAUSILIA.—PLATE IX.

Species 81. (Mus. Brit.)

CLAUSILIA DORNIIL. *Cla. testā elongatā, subfusiformi, corneo-rubescēti, infra castanē, levigatā; anfractibus circa 10, apicalibus 4 contractis, brevibus, alteris altissimis, moderatē ventricosis; ultimo elongato, attenuato, suprā aperturam rimato; aperturā obliquā, anticē productā, margine crasso, abo, rotundo, labio interno biplicato, plicis elongatis; plicā internā undā obliquā conspicuā.*

DORIN'S CLAUSILIA. Shell elongated, rather fusiform, reddish horn, chestnut below, smooth; whorls about ten, the four apical ones contracted, short, the others very high, moderately ventricose; last elongated, attenuated, notched above the aperture; aperture oblique, produced anteriorly; margin thick, white, rounded, inner lip with two plaits, plaits elongated; an inner plait oblique, conspicuous.

PFEIFFER. Malak. Bl., 1860, p. 213.

Hab. Venezuela.

Species 82. (Mus. Crosse.)

CLAUSILIA YOKOHAMENSIS. *Cla. testā ventricosā, fusiformi, crassiūsculā, fusco-cornē, leviter et irreguliter striatā; anfractibus 9-10, altis, moderatē convexis, apicali obtusissimo, penultimo latissimo, ultimo elongato, non rimato; aperturā violaceā, pyriformi-ovatā, prorsum productā; margine latē reflexo, plicā superiori, labii internē validā, compressā, plicā superiori columellari oblique, inferiori parvā.*

THE YOKOHAMA CLAUSILIA. Shell ventricose, fusiform, rather thick, horny-brown, slightly and irregularly striated; whorls nine to ten, high, moderately convex, apical one very obtuse, penultimate very broad, last elongated, not notched; aperture violet, pyriform-ovate, produced forwards; margin broadly reflected; upper plait of the inner lip strong, compressed; upper columellar plait oblique, lower small.

CROSSE. Journal de Conchyliologie, 1873, p. 133.

Hab. Yokohama, Japan.

Species 83. (Mus. —? Copied.)

CLAUSILIA SEMILAMELLATA. *Cla. testā tenui, parvā, albā, levigatā, fusiformi, medio subventricosā; anfractibus 8-9, inferioribus altis, moderatē convexis, ultimo elongato, attenuato, dorso propè aperturam*

lirato, suprā aperturam rimato; aperturā obliquè productā, ovatā, subsolutā, margine tenui, angustè reflexo, plicā superiori, labii interni elongatā, columellā, arcuatā, angustā, plicis 5 parvis, parallelibus aequalibus instructā.

THE HALF-LAMINATED CLAUSILIA. Shell thin, small, white, smooth, fusiform, rather ventricose in the middle; whorls eight or nine, lower ones high, moderately convex, last elongated, attenuated, ridged near the aperture on the back, notched above the aperture; aperture obliquely produced, ovate, rather solid, margin thin, narrowly reflected, upper plait of the inner lip elongated, columella arched, narrow, set with five small, parallel equal plaits.

MOUSSEN —? Crosse Journ. Conch.

Hab. —?

Species 84. (Mus. —? Copied.)

CLAUSILIA SIEVERSI. *Cla. testā albiddā, parvā, subcylindraceā, attenuatā levigatā, anfractibus 9-10, vix convexis, ultimo obliquè elongato, suprā aperturam rimato; aperturā pyriformi, plicā superiori labii interni prominenti, columellā angustā, arcuatā, creberrimè transversè plicatā.*

CLAUSILIA SIEVERSI. Shell whitish, small, rather cylindrical, attenuated, smooth, whorls nine or ten, very little convex, the last obliquely elongated, notched above the aperture; aperture pyriform, upper plait of the inner lip prominent, columella narrow, arched, very closely transversely plaited.

PFEIFFER —? Crosse Journ. Conch., 1873, p. 214.

Hab. Lenkoran, Russia.

The granulations, or plaits on the arched columella, are much more numerous in this than in the preceding species, and the last whorl has no ridges on the back.

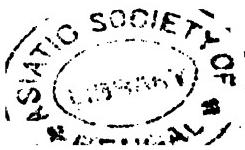
Species 85. (Mus. Brit.)

CLAUSILIA COMMUTATA. *Cla. testā parvā, pallidā cornē, levigatā, fusiformi, anfractibus brevibus, versus apicem gradatim contractis, medio moderatē inflatis; aperturā ovatā, biplicatā.*

THE COMMUTED CLAUSILIA. Shell small, pale horny, smooth, fusiform, whorls short, gradually contracted towards the apex, moderately inflated in the middle, aperture ovate, biplicate.

RossMASLER. Pfeiffer, Monog. Hel. II, p. 401.

Hab. Spain, Sicily, &c.





86.



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95.

CLAUSILIA.

PLATE X.

Species 86. (Mus. Brit.)

CLAUSILIA PLICATULA. *Cla. testū fusiformi, rufo-fulvā, tenuissimè striatā, versus apicem attenuatā, medio ventricosā; anfractibus duodecenis, ultimo subcontracto; aperturā subquadratā, supernè ad suturam subacuminatā, columellā inter laminas dentato-plicatā.*

THE PLAITED CLAUSILIA. Shell fusiform, reddish-fawn, very finely striated, attenuated towards the apex, ventricose in the middle; whorls twelve, the last contracted; aperture rather square, acuminate above at the suture, columella tooth-plaited between the folds.

MONTAGU. Pfeiffer, Mon. Hel. VI. p. 498.

Hab. Pyrmont.

Species 87. (Mus. Brit.)

CLAUSILIA MEISNERIANA. *Cla. testā oblongo-fusiformi, pallidè fulvā, tenuiter liratā, supernè attenuatā, medio inflatā, apice rotundo; anfractibus tridecenis, moderatè convexis; aperturā mediocri, laminā columellari prominenti, labio externo supernè flexuoso, prope suturam incrassato.*

MEISNER'S CLAUSILIA. Shell oblong-fusiform, pale fulvous, finely ridged, attenuated above, inflated in the middle, apex rounded; whorls thirteen, moderately convex; aperture middle-sized, columellar lamina prominent, outer lip flexuous above, thickened near the suture.

SHUTTLEWORTH. Pfeiffer, Mon. Helic. VI. p. 405.

Hab. Corsica, Sardinia, &c.

Species 88. (Mus. Brit.)

CLAUSILIA CUMINGIANA. *Cla. testā levigatā, fuscopurpurea, elongatā, subpyramidalē, versus apicem gradatim attenuatā; anfractibus decenis, albīs, perobliquis, ad latera rectiūsculis; aperturā magnā, auriformi, laminis columellaribus duabus, approximatis, margine albo, crasso.*

CUMING'S CLAUSILIA. Shell smooth, brown-purple, elongated, subpyramidal, gradually attenuated towards the apex; whorls ten, white, very oblique, rather straight at the sides; aperture

large, ear-shaped, columellar laminae two, approximate, margin white, thick.

PFEIFFER, Mon. Helic. VI. p. 406.

Hab. Philippines.

Species 89. (Mus. Brit.)

CLAUSILIA EXCELLENS. *Cla. testū pallidē cornēd, solidā, tenuiter sulcatā, magnā, ventricosā, subfusiformi; anfractibus undecenis, perobliquis; aperturā magnā, auriformi, laminā parietali prominenti, columellari elevatā, plicā tuberculiformi trans labrum infrā trajectā; labio externo supra medium incrassato.*

THE EXCELLING CLAUSILIA. Shell pale horn, solid, finely sulcated, large, ventricose, rather fusiform; whorls eleven, very oblique; aperture large, auriform, parietal lamina prominent, columellar raised, tuberculiform plate below crossing the inner lip, outer lip thickened above the middle.

PFEIFFER. Mon. Helic. VI. p. 427.

Hab. Loo Choo.

A fine species, nearly white, with the last whorl more strongly wrinkled than the others.

Species 90. (Mus. Brit.)

CLAUSILIA PLATYDERA. *Cla. testā solidā, subventricosā, solidiūsculā, pallidē cornēd, pyramidatā, tenuissimè striatā; anfractibus undecenis, gradatim attenuatis; aperturā subauriformi, laminā columellari angustā, subverticali, margine albo, incrassato, supra medium labii externi tumido.*

THE FLAT-SCRAPED CLAUSILIA. Shell solid, rather ventricose, pale horny, pyramidal, very finely striated; whorls eleven, gradually attenuated; aperture rather auriform, columellar lamina narrow, nearly vertical, margin white, thick, swelled above the middle of the outer lip.

MAETENS. — ?

Hab. Japan.

Species 91. (Mus. Brit.)

CLAUSILIA FLUVIATILIS. *Cla. testā ventricosā, solidā, pyramidatā, medio et infrā inflatā; pallidē fuscā,*

CLAUSILIA.—PLATE X.

tenuissimè striatâ, versus apicem attenuatâ; anfractibus undecenis, obliquis, convexis, ultimo infra carinato; aperturâ magnâ; labio interno crenulato, lamina columellari angustâ, elevatâ, ferè perpendiculari; labio interno in tuberculum dentiformem desinenti.

THE FLUVIATILE CLAUSILIA. Shell ventricose, solid, pyramidal, inflated in the middle and below; pale brown, very finely striated, attenuated towards the apex; whorls eleven, oblique, convex; last keeled below; aperture large, inner lip crenulated, columellar lamina narrow, raised, almost perpendicular; inner lip ending in a tooth-shaped tubercle.

BENSON. —?

Hab. Chusan.

The last whorl is keeled at the bottom. In this and the preceding species the columellar lamina is closely pressed against the edge, and is almost perpendicular.

Species 92. (Mus. Brit.)

CLAUSILIA KOBENSIS. *Cla. testâ solidâ, ventricosâ, pyramidalâ, rubro-fuscâ, tenuissimè liratâ; anfractibus duodecenis, obliquis, versus apicem attenuatis, infra medium convexis, ultimo ad terminum rotundo; aperturâ magnâ, margine albo, crasso, supra medium labii externi tumido; lamina columellari elongatâ, peculiärer arcuatâ, plicâ minori infra instructâ.*

THE KOBE CLAUSILIA. Shell solid, ventricose, pyramidal, red-brown, finely ridged; whorls twelve, oblique, attenuated towards the apex, convex below the middle, last rounded at the end; aperture large, margin white, thick, swelled above the middle of the outer lip; columellar lamina elongated, peculiarly arched, with a smaller inserted below.

SMITH. Quarterly Journal of Conchology.

Hab. Kobe, Japan.

Species 93. (Mus. Brit.)

CLAUSILIA VETUSTA. *Cla. testâ brevi, subventricosâ, fuscâ vel albâ, tenuissimè liratâ; anfractibus unde-*

cenâ, tribus inferioribus valde inflatis; apertura parvâ, auriformi; lamina columellari prominenti, elevatâ, semiinternâ.

THE ANTIQUATED CLAUSILIA. Shell short, subven-tricose, brown or white, very finely ridged; whorls eleven, three lower much inflated; aperture small, auriform, columellar lamina pro-minent, raised, half internal.

ZEIGLER. Pfeiffer. Mon. Helic. VI. 499.

Hab. Illyria.

Species 94. (Mus. Brit.)

CLAUSILIA ACULUS. *Cla. testâ subfusiformi, corned, tenuissimè striatâ; anfractibus decenis, superioribus attenuatis, rectiusculis, inferioribus inflatis; apertura simplici, margine angustè incrassato, lamina columellari pererelevatâ, parvâ.*

THE NEEDLE CLAUSILIA. Shell subfusiform, horny, very finely striated; whorls ten, upper at-tenuated, rather straight, lower inflated; aper-ture simple, margin narrowly thickened, colu-mellar lamina much raised, small.

BENSON. Pfeiffer. Mon. Helic. VI. p. 482.

Hab. China.

Species 95. (Mus. Brit.)

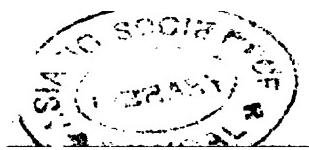
CLAUSILIA OLIMPICA. *Cla. testâ parvâ, fusiformi, fulvâ, tenuissimè striatâ; anfractibus duodecenis, superioribus attenuatis, medianis inflatis, ultimo elongato, soluto, tortuo, profundè rimato; aper-turâ auriformi, subquadrato, margine incrassato, lamina columellari nullo.*

THE OLYMPIC CLAUSILIA. Shell small, fusiform, ful-voous, very finely striated; whorls twelve, upper attenuated, middle inflated, last lengthened, un-wound, twisted, deeply notched; aperture ear-shaped, rather square, margin thickened, colu-mellar lamina none.

FRIEVDÖT. Pfeiffer. Mon. Hel. VI. p. 514.

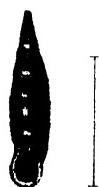
Hab. The Olympic Mountain.

A tortuous swelling of the part above the mouth is remarkable in this species.





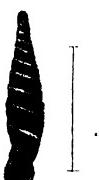
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CLAUSILIA.

PLATE XI.

Species 96. (Mus. Brit.)

CLAUSILIA DAICICA. *Cla. testā ventricosā, succinē et plumbeā, levigatā; anfractibus undecenis, ultimo angustato, dorso rugato; aperturā oblongā, posticē angustatā; labio externo suprē sinuato, margine supra medium tumido, laminā columellari, magno, laminis internis inconspicuis.*

THE DACIAN CLAUSILIA. Shell ventricose, amber and plum, smooth; whorls eleven, last narrow, wrinkled at the back; aperture oblong, posteriorly narrowed; outer lip sinuous above, margin tumid above the middle, columellar lamina large, inner laminae inconspicuous.

FRIALDSKY. Pfeiffer. Mon. Hel. VI. p.

Hab. Serbia.

Species 97. (Mus. Brit.)

CLAUSILIA SULCOSA. *Cla. testā angustatā, subpyramidalē, anfractibus undecenis, obsoletē costellis reticulatis liratis; ultimo elongato, dorso infrū sulcato, carinato; aperturā magnā, laminis columellaribus duabus, superiori obliquā, inferiori brevi, prominenti.*

THE GROOVED CLAUSILIA. Shell narrow, rather pyramidal; whorls eleven, obsoletely ridged with small rather straight ribs, last elongated, back grooved and keeled below; aperture large, columellar laminae two, upper oblique, lower short, prominent.

WAGNER. Pfeiffer. Mon. Helic. VI. p. 499.

Clauilia irregularis. Zeigler.

Hab. Dalmatia.

Species 98. (Mus. Brit.)

CLAUSILIA SOMCHETICA. *Cla. testā brevi, ventricosā, ferē levigatā; pallidē cornēd; anfractibus undecenis, medianis latis; aperturā subquadratā, laminā columellari nullā, laminā parietali brevi; labio externo sinuoso.*

THE SOMCHETICA CLAUSILIA. Shell short, ventricose, almost smooth, pale horn; whorls eleven, middl white; aperture subquadrate, columellar lamin

none, parietal lamina short, outer lip sinuous above.

PFEIFFER. Mon. Helic. VI. p. 446.

Hab. —?

Species 99. (Mus. Brit.)

CLAUSILIA FRAUENFELDTI. *Cla. testā elongato-fusiformi, fuscā, levigatā; anfractibus decenis, medianis et inferioribus inflatis, ad suturam albo angustè fasciatā; ultimo elongato, angustato; aperturā pyriformi, expansā, castaneā; labio externo supra medium tumido, laminā columellari late.*

FRAUENFELDT'S CLAUSILIA. Shell elongate-fusiform, brown, smooth; whorls ten, middle and lower inflated, narrowly banded with white at the suture, last elongated, narrow; aperture pyriform, expanded, chestnut; outer lip tumid above the middle, columellar lamina broad.

ZELEBOR. Pfeiffer. Mon. Helic VI. p. 440.

Hab. Serbia.

Species 100. (Mus. Brit.)

CLAUSILIA PAGANA. *Cla. testā parvā, brevi, fusiformi, obscurē fuscā, tenuissimē striatā; anfractibus decenis, apicali rotundo, superioribus attenuatis, inferioribus subventricosis; aperturā auriformi, marginē crasso, labio externo supra medium sinuoso, tumido, laminā columellari internē extenso.*

THE PAGAN CLAUSILIA. Shell small, short, fusiform, dull brown, very finely striated; whorls ten, apical round, upper attenuated, lower rather ventricose; aperture auriform, margin thick, outer lip sinuous above the middle, tumid, columellar lamina extended within.

ZEIGLER. Pfeiffer. Mon. Helic. VI. p. 505.

Hab. Serbia.

Species 101. (Mus. Brit.)

CLAUSILIA SEMIDENTICULATA. *Cla. testā breviūsculā, fusiformi, plumbed, levigatā, apice succined; anfractibus undecenis, medianis ventricosē, ultimo ad dorsum elongato, soluto, tortuo, medio sulcato;*

CLAUSILIA.—PLATE XI.

aperturâ succinæ, labio externo, superne emarginato, supra medium sinuatim tumido, margine crenulato; columellâ infra laminam triplicato.

THE HALF-DENTICULATED CLAUSILIA. Shell rather short, fusiform, plum, smooth, apex amber; whorls eleven, middle ventricose, last elongated at the back, unwound, tortuous, with a groove in the middle; aperture amber, outer lip emarginated, sinuously tumid above the middle, margin crenulated; columella triplicate below the lamina.

PFEIFFER. Mon. Helic. VI. p. 509.

Hab. Turkey; on the banks of the Bosphorus.

Species 102. (Mus. Brit.)

CLAUSILIA FORTUNEI. *Cla. testâ elongato-fusiformi, solidâ, obscurè plumbed, tenuissimè striatâ; anfractibus quaterdecenis, superioribus attenuatis, medianis et inferioribus ventricosis; ultimo elongato, medio compresso; aperturâ magnâ, auriformi, succinæ, margine albo, crasso, laminâ columellarâ magnâ, crassâ, margine columellarâ medio sinuato.*

FORTUN'S CLAUSILIA. Shell elongated-fusiform, solid, dull plum, very finely striated; whorls fourteen, upper attenuated, middle and lower ventricose; last elongated, middle compressed; aperture large, ear-shaped, amber, margin white, thick; columellar lamina large, thick, columellar margin sinuous in the middle.

PFEIFFER. Mon. Helic. VI. p. 494.

Hab. Shanghai.

Species 103. (Mus. Brit.)

CLAUSILIA BERGERI. *Cla. testâ subfusiformi, fusco-plumbed, laevi; anfractibus undecenis, medianis ventricosis, ultimo elongato, birugato; aperturâ*

subtrigonâ, labio externo suprà infrâque acuminato.

BERGER'S CLAUSILIA. Shell subfusiform, brown-plum, smooth, whorls eleven, middle ventricose, last elongated, with two wrinkles; aperture rather trigonal, outer lip acuminated above and below.

MAVER. Pfeiffer. Mon. Helic. VI. p. 422.

Hab. Bavaria.

Remarkable for the peculiar triangular form of the mouth.

Species 104. (Mus. Brit.)

CLAUSILIA SERICATA. *Cla. testâ brevi, fusiformi, ventricosâ, laevi, fusco-plumbed; apice et aperturâ succinæ; aperturâ magnâ, margine expanso; laminâ columellarâ lato, elevato, laminis internis quaternis.*

THE SILKEN CLAUSILIA. Shell short, fusiform, ventricose, smooth, brown-plum, apex and aperture amber; aperture large, margin expanded; columellar lamina broad, raised, four internal laminae.

PFEIFFER. Mon. Helic. VI. p. 492.

Hab. Eubœa.

Species 105. (Mus. Brit.)

CLAUSILIA LEROSIENSIS. *Cla. testâ obscurè plumbed, acutâ et crebrè laminatâ, subfusiformi, anfractibus undecenis, apicalibus levigatis, medianis ventricosis, ultimo elongato, ad dorsum costis distanti bus lirato; aperturâ triplicatâ, auriformi.*

THE LEROS CLAUSILIA. Shell dull plum, sharply and closely laminated, rather fusiform; whorls eleven, apical smooth, middle ventricose, last elongated, ridged on the back with distant ribs; aperture with three plaited plaits, auriform.

FERRUSSAC. —?

Hab. Island Leros.



107.



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114.



115.

CLAUSILIA.

PLATE XII.

Species 106. (Mus. Brit.)

CLAUSILIA EXILIS. *Cla. testā pupaformi, fuscā, tenuissimè liratā; anfractibus novenīs, medianis sub-aqualibūs, ultimo contracto; aperturā parvā, margine externo supernō flexuosim tumido, margine interno prope suturam biplicato, plicā columellari nullā, laminis semiinternis intus productis.*

THE NARROW CLAUSILIA. Shell pupa-shaped, brown, very finely ridged; whorls nine, middle nearly equal, last contracted, aperture small, outer margin with a tumid band above, inner margin with two plaits near the suture, no columellar plait, internal plaits extended within.

LOWE. Proc. Zool. Soc. 1866, p. 307.

Hab. Madeira.

Species 107. (Mus. Brit.)

CLAUSILIA BELCHERI. *Cla. testā fusiformi, levigatā, altā, fusco-stramineā; anfractibus decenīs, convexis, supra medium attenuatis, medio inflatis, ultimo supra aperturam elongato; aperturā subauriformi, supernē sinuatā, plicā columellari magnā, elevatā.*

BELCHER'S CLAUSILIA. Shell fusiform, smooth, raised, brown-straw; whorls ten, convex, attenuated above the middle, inflated at the middle, last lengthened above the aperture; aperture rather ear-shaped, sinuated above, columellar fold large, elevated.

PFEIFFER. Mon. Hel. Vol. VI. p. 412.

Hab. Corean Archipelago.

Species 108. (Mus. Brit.)

CLAUSILIA CLAVIFORMIS. *Cla. testā breviter fusiformi, levissimā, fusco-stramineā; anfractibus octonīs, convexis, infrā medium inflatis, ultimo subtortuoso; aperturā perpendiculariter oblongā; labio interno biplicato, plicis parvis.*

THE KEY-SHAPED CLAUSILLA. Shell shortly fusiform, very smooth, brown-straw; whorls eight, convex, inflated below the middle, last rather tortuous; aperture perpendicularly oblong, inner lip with two folds, folds small.

PFEIFFER. Mon. Hel. Vol. VI., p. 412.

Hab. Corean Archipelago.

Much resembling *Clausilia Belcheri*, but shorter and more ventricose.

Species 109. (Mus. Brit.)

CLAUSILIA RUDIS. *Cla. testā pallidè fulvā, fusiformi, laminatim liratā, liris crassis, sublistantibūs; anfractibus undecenīs, supra medium longè attenuatis, medio et infrā vallē inflatis, ultimo infrā subcontracto; aperturā oblongā, subquadratā, plicis labii interni parvis.*

THE ROUGH CLAUSILIA. Shell pale fulvous, fusiform, lamellately ridged, ridges thick, rather distant; whorls eleven, attenuated some length above the middle, much inflated at the middle and under, last somewhat contracted below; aperture oblong, rather square, folds of the inner lip small.

PFEIFFER. Proc. Zool. Soc. Lond. 1864.

Hab. Island of Crete.

Species 110. (Mus. Brit.)

CLAUSILIA PETROSA. *Cla. testā altā, leviter liratā, sub-fusiformi, cornē; anfractibus duodecenis, superioribū brevibus, attenuatis, inferioribū tribus altis, ultimo elongato, tortuo, obliquè producto; aperturā auriformi, margine albo, crasso, labio interno validè biplicato, labio externo supra medium tumido.*

THE STONY CLAUSILIA. Shell high, slightly ridged, subfusiform, horny; whorls twelve, upper short, attenuated, lower three high, last elongated, tortuous, obliquely produced; aperture ear-shaped, margin white, thick, inner lip with two strong folds, outer lip swelled above the middle.

PARRY. Küster, p. 226.

Hab. Greece.

The aperture is curiously twisted and brought round, so as to project on the right side.

CLAUSILIA.—PLATE XII.

Species 111. (Mus. Brit.)

CLAUSILIA IDEA. *Cla. testā subfusiformi, solidā, latā, pruinosā, laminis fulvis numerosis, rectiūsculis, tenuibus liratā; aperturā magnā, subquadratā, prope suturam sinuatā, tumidā, plicā parietali parvā, laminā columellari mediocri.*

THE MOUNT IDA CLAUSILIA. Shell subfusiform, solid, broad, plum-colour, ridged with fulvous, numerous, rather straight, thin laminae; aperture large, rather square, sinuated and tumid near the suture; parietal plait small, columellar laminae middle-sized.

PFEIFFER. Mon. Vol. VI. p. 498.

Hab. Mount Ida.

Species 112. (Mus. Brit.)

CLAUSILIA DISTANS. *Cla. testā fusiformi, elongatā, lacteā, angustā, distanter liratā; anfractibus quaterdecenis, superioribus attenuatis, medianis et inferioribus latiūsculis, ultimo breviter rimato, declivi, aperturā perpendiculariter oblongā, superne attenuatā, margine albo, columellā rectiūscula, laminā columellari obliquè dentiformi.*

THE DISTANT CLAUSILIA. Shell fusiform, elongated, cream-coloured, narrow, distantly ridged; whorls fourteen, upper attenuated, middle and lower rather wide, last shortly notched, sloped down; aperturo perpendiculariter oblong, attenuated above, margin white, columella rather straight, columellar laminae obliquely tooth-shaped.

PFEIFFER. Proc. Zool. Soc. 1864, p. 605.

Hab. Sudsuro, Crete.

Species 113. (Mus. Brit.)

CLAUSILIA COMPRESSA. *Cla. testā regulariter fusiformi, lilaceā, strigis brevibus, fuscis variegatā, tenuiter laminatim liratā; anfractibus decenis, superioribus parvis, ultimo elongato; aperturā perpendiculariter oblongā, labio externo prope medium sinuatim tumido, plicā parietali parvā, plicā columellari prominenti.*

THE COMPRESSED CLAUSILIA. Shell regularly fusiform, lilac, variegated with short brown stripes, ridged with fine laminae; whorls ten, upper

small, last elongated; aperture perpendicularly oblong, outer lip sinuously tumid near the middle, parietal fold small, columellar fold prominent.

PFEIFFER. Mon. Hel. Vol. VI. p. 428.

Hab. Island of Cerigo.

Species 114. (Mus. Brit.)

CLAUSILIA SCALARIS. *Cla. testā, brevi, latā, fulvā, tenuiter laminatim liratā; anfractibus senis, prope suturam latioribus angulatis, ultimo alti, infrā contracto; aperturā auriformi, columellā infrā retroreīm expansā, labio externo supra medium sinuatim tumido, plicā parietali parvā, plicā columellari mediocri, obliquā.*

THE LADDER-LIKE CLAUSILIA. Shell short, broad, fulvous, with fine laminar ridges; whorls six, broader and angular near the suture, last high, contracted below; aperture auriform, columella expanded backwards below, outer lip sinuously tumid above the middle, parietal fold small; columella fold middling, oblique.

PFEIFFER. Mon. Hel. Vol. VI. p. 439.

Hab. Malta.

The whorls are angularly shouldered, so as to give the appearance of steps.

Species 115. (Mus. Brit.)

CLAUSILIA HAUERI. *Cla. testā breviūsculā, pyramidato-subfusiformi, latā, distanter tenuiter liratā, inter liras pruinosā; anfractibus decenis, inferioribus magnis; aperturā auriformi, margine crasso, albo, labio externo supra medium tumido, plicā parietali minutā, plicā columellari altissimā, ferè perpendiculari.*

HAUER'S CLAUSILIA. Shell rather short, pyramidal, subfusiform, broad, distantly finely ridged, plum-coloured between the ridges; whorls ten, lower large; aperture auriform, margin thick, white, outer lip tumid above the middle, parietal fold minute, columellar fold very high, almost perpendicular.

BIELZ. Pfeiffer, in Novit. Conch. Fasc. XXII. p. 264.

Hab. Transylvania.





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123.



124.



125.

CLAUSILIA.

PLATE XIII.

Species 116. (Mus. Brit.)

CLAUSILIA LIVEUS. *Cla. testā dextrali, pruinoso-fuscā, breviūsculā, fusiformi; anfractibus octonis, altis, inferioribus subinflatīs, ultimo contracto, obliquō aperturā auriformi, infrā obliquē productā, marginē crasso, albo, plicā columellari magnā, plicā parietali parvā, labio externo ad medium latē tumido.*

THE LIVID CLAUSILIA. Shell dextral, plum-brown, rather short, fusiform; whorls eight, high, rather inflated, last contracted, oblique; aperture ear-shaped, obliquely produced below; margin thick, white, columellar plait large, parietal plait small, outer lip broadly tumid at the middle.

BIELZ. Pfr. Vol. IV. p. 718.

Clausilia Lischkeana. Bielz.

Hab. Transylvania.

Species 117. (Mus. Brit.)

CLAUSILIA BADIA. *Cla. testā parvā, breviūsculā, subfusiformi, oliraceo-fuscā, lèvi; anfractibus octonis; aperturā subobliquē ovatī, plicā columellari magnā, elevatā, plicā parietali parvā.*

THE BAY CLAUSILIA. Shell small, rather short, subfusiform, olive-brown, smooth; whorls eight; aperture rather obliquely oval, columellar plait large, raised, parietal plait small.

ZEIGLER. Pfeiffer. Vol. VI. p. 496.

Clausilia fontana. Schmidt.

Clausilia cruda. Schmidt.

Hab. —?

Species 118. (Mus. Brit.)

CLAUSILIA SCHMIDTI. *Cla. testā parvā, fusiformi, politā, pruinosā; anfractibus duodecenis, superioribus parvis, medianis et inferioribus subinflatīs, ultimo infrā subcontracto; aperturā subaurantiā, oblongā, labio externo supra medium sinuatim tumido, plicā columellari productā, plicis parietalibus duabus.*

SCHMIDT'S CLAUSILIA. Shell small, fusiform, polished, plum-coloured; whorls twelve, upper small, middle and lower somewhat inflated, last a

little contracted below; aperture rather orange, oblong, outer lip sinuously tumid, columella plait produced, parietal plaits two.

PFEIFFER. Mon. Hel. Vol. VI. p. 490.

Hab. Carinthia.

Species 119. (Mus. Brit.)

CLAUSILIA PERARATA. *Cla. testā latā, brevi, jumoso-fuscā, longitudinaliter, perobliquè costatā; anfractibus senis, ultimo et penultimo altissimis, ultimo infrā contractā et prolongatā; aperturā depressā, subrotundā, auriformi; marginē ad columellam obliquē expanso; plicā parietuli prominenti; plicā columellari crassā.*

THE PLOUGHED CLAUSILIA. Shell broad, short, smoky-brown, longitudinally very obliquely ribbed; whorls six, last and last but one very high, last contracted below and prolonged; aperture depressed, rather round, ear-shaped; margin obliquely expanded at the columella; parietal plait prominent; columellar plait thick.

MARTINI. —?

Hab. New Granada.

Species 120. *(Mus. Brit.)

CLAUSILIA TERES. *Cla. testā angustā, altissimā, lèvi-gutā, lilacēa; anfractibus septendecenis, superioribus valdē attenuatis, inferioribus altis, subinflatīs; aperturā aurantiā, perpendiculariter oblongā, labio externo, supra medium tumidiā; plicā columellari obliquā, elevatā, plicā parietali parvā, acutā.*

THE ROLLING-PIN CLAUSILIA. Shell narrow, very high, smooth, lilac; whorls seventeen, upper very attenuated, lower high, subinflated; aperture orange, perpendicularly oblong, outer lip tumid above the middle, columellar plait oblique, raised; parietal plait small, sharp.

OLIVIER. (Bulimus.) Pfr. Mon. Hel. Vol. II. p. 414.

Hab. Crete.

Species 121. (Mus. Brit.)

CLAUSILIA SIEBOLDI. *Cla. testā breviūsculā, fusiformi, supernè succinēa, infrā pruinosā, lèvigatea; an-*

CLAUSILIA.—PLATE XIII.

fractibus novenis, superioribus subattenuatis, medianis inflatis; aperturā magnā, auriformi; margine albo, crasso, labio externo supra medium tumido, plicā parietali brevi, acutā, plicā columellari prominenti.

SIEBOLD'S CLAUSILIA. Shell rather short, fusiform, amber above, plum-coloured below, smooth ; whorls nine, upper rather attenuated, middle inflated ; aperture large, ear-shaped ; margin white, thick, outer lip tumid above the middle, parietal plait short, sharp ; columella plait prominent.

PFEIFFER. Malak. Bl. 1869.

Hab. Japan.

Species 122. (Mus. Brit.)

CLAUSILIA MARONHONENSIS. *Cla. testā brevi, latā, subcylindricā, lēvigatā, albā et pallidē fulvā; anfractibus senis, altis, ultimo infrā subcontracto, prolongato, profundē et obliquē rimato; aperturā rotundo-auriformi, margine albo, expanso, supernē rimato, plicā parietali prominenti; plicā columellari parvā, altissimā.*

THE MARANHON CLAUSILIA. Shell short, broad, rather cylindrical, smooth, white and pale fulvous ; whorls six, high, last rather contracted below, prolonged, deeply and obliquely notched ; aperture roundly-auriform ; margin white, expanded, notched above ; parietal plait prominent, columellar plait small, very high.

ALBERS. Pfeiffer. Mon. Hel. IV. p. 785.

Hab. River Maranhon, Columbia.

Species 123. (Mus. Brit.)

CLAUSILIA CORTICINA. *Cla. testā altā, subpyramidalē, lēvigatā, pruinosa; anfractibus novenis, inferioribus altis, ultimo prolongato; aperturā maximā, supernē subacuminatā, prope suturam sinuatim emarginatā; plicā parietali tenui, plicā columellari altā, parvā, columellā arcuatā.*

THE RIND CLAUSILIA. Shell high, rather pyramidal, smooth, plum-coloured ; whorls nine, lower high, last prolonged ; aperture very large, rather acuminate above, sinuously emarginated near the suture ; parietal plait thin, columellar plait high, small, columella plait curved.

VON BUSCH. Pfr. Mon. Hel. II. p. 404.

Hab. Java.

Species 124. (Mus. Brit.)

CLAUSILIA KUTSCHIGI. *Cla. testā brevi, ventricosissimā, lilacina, lēvigatā; anfractibus octonis, tribus inferioribus altis, inflatis, ultimo subcontracto, ad dorsum plicato; aperturā magnā, latā, margine crasso, plicis parietali et columellari acuminatis, prominentibus.*

KUTSCHIG'S CLAUSILIA. Shell short, very ventricose, lilac, smooth ; whorls eight, three lower high, inflated, last a little contracted, plaited at the back ; aperture large, broad ; margin thick, parietal and columellar plaits acuminate, prominent.

KÜSTER, p. 274.

Clausilia costicolla. Parr.

Clausilia corpulenta. Kutschig.

Hab. Dalmatia.

Species 125. (Mus. Brit.)

CLAUSILIA CASTALIA. *Cla. testā subpyramidalē, supernē attenuatā, medio et infrā inflatā, fuscā, lavi, anfractibus novenis, inflatis; aperturā parvā, obliquē subproductā, supernē acuminatā; margine crasso, plicā columellari altā.*

THE CASTALIA CLAUSILIA. Shell rather pyramidal, attenuated above, inflated in the middle and below ; brown, smooth ; whorls nine, inflated ; aperture small, a little obliquely produced, acuminate above ; margin thick, columellar plait high.

ROTH. Rossmässler, Icon. III. p. 54.

Hab. Mount Parnassus.





126.



127.



128.



129.



130.



131.



132.



133.



135.



136.

CLAUSILIA.

PLATE XIV.

Species 126. (Mus. Brit.)

CLAUSILIA CONTAMINATA. *Cla. testâ brevissimâ, latâ, levigatâ, lilacinâ; anfractibus senis; aperturâ latâ, subquadratâ, subaurea, plicis nullis.*

THE CONTAMINATED CLAUSILIA. Shell very short, broad, smooth, lilac; whorls six; aperture broad, rather square, rather golden-tinted; no plaits.

ZEIGLER. Pfeiffer. Mon. Hel. II. 436.

Hab. Cephalonia.

Species 127. (Mus. Brit.)

CLAUSILIA MADENSIS. *Cla. testâ dextrali, pyramidatâ, brevi, cornuâ et pruinosa, lœvi; anfractibus novem, superioribus angustis, inferioribus ventricosis; aperturâ obliquâ, auriformi, supernè angustatâ; plicâ columellari prominenti, plicâ parietali elongatâ.*

THE MADEN CLAUSILIA. Shell dextral, pyramidal, short, horny, plum-coloured, smooth; whorls nine, upper narrow, lower ventricose; aperture oblique, ear-shaped; narrow above; columellar fold prominent, parietal fold lengthened.

FUSSENDORF. —?

Hab. Transylvania.

Species 128. (Mus. Brit.)

CLAUSILIA CANALICULATA. *Cla. testâ brevi, pyramidatâ, anfractibus octonis, inferioribus latis; aperturâ latâ, subaurea, subrotundâ, prope suturam canaliculatâ, sinuatâ, margine crasso, plicâ columellari elevatâ, latâ.*

THE CHANNELLED CLAUSILIA. Shell short, pyramidal, whorls eight, lower broad; aperture broad, rather golden, rather rounded, channelled near the suture, sinuated, margin thick, columellar plait raised, broad.

PFEIFFER. Mon. Hel. III. 599.

Clausilia Eubœa. Parreys.

Hab. Eubœa.

Species 129. (Mus. Sowerby.)

CLAUSILIA REINIANA. *Cla. testâ magnâ, solidâ, subfusciformi, latâ, fuscâ, tenuissimè striatâ; anfractibus decenis, apicalibus quaternis brevibus, rotundis, medianis magnis, inflatis, ultimo maximo, infrâ contracto; aperturâ magnâ, subauriformi, subaurantidâ; plicâ parietali angusto, plicâ columellari parvâ, planatâ, subelevatâ, plicâ minutâ, infra columellam tenui.*

THE REINI CLAUSILIA. Shell large, solid, subfusciform, broad, brown, very finely striated; whorls ten, four apical short, round, middle large, inflated, last very large, contracted below; aperture large, subauriform, rather orange; parietal fold narrow, columellar plait small, flattened, rather raised; minute plait below the columella small.

KOBELL. —?

Hab. Japan.

Species 130. (Mus. Brit.)

CLAUSILIA SYRACUSANA. *Cla. testâ subfusciformi, pallidè fulvâ, laminis acutis rectis crebris liratâ; anfractibus decenis, apicalibus quaternis purvis, rotundis, levibus; aperturâ subovatâ, margine expanso, albo; labio externo, supernè tumido, dentato, dente interno continuo, plicâ parietali minutâ, plicâ columellari crassâ, elevatâ; plicâ subinternâ obliquâ, ad marginem inferiorem decinenti.*

THE SYRACUSE CLAUSILIA. Shell subfusciform, pale fulvous, ridged with numerous sharp, straight laminae; whorls ten, four apical small, rounded, smooth; aperture rather ovate, margin white, expanded; outer lip tumid above, toothed, inner lip continuous, parietal plait minute, columellar plait thick, raised; a subinternal oblique plait ending at the lower margin.

PHILIPPI. Pfeiffer Mon. Hel. IV. 739.

Clausilia macrostoma. Cautraine.

Clausilia inflata. Delle Chiaje.

Hab. Sicily.

CLAUSILIA.—PLATE XIV.

Species 131. (Mus. Brit.)

CLAUSILIA SICULA. *Cla. testā breviūsculā, pallidā, latā, lərigatā, medio et infrā ventricosā; anfractibus paucis, tenuissimè striatis, fusco strigatis, ultimo elongato; aperturā obliquā, subauriformi, labio externo crasso, infrā subexpanso, columellā triplicatā.*

THE SICILIAN CLAUSILIA. Shell rather short, pale, broad, smooth, ventricose in the middle and below; whorls few, very finely striated, striped with brown, last elongated; aperture oblique, rather auriform, outer lip thick, expanded below, columella three-plaited.

BENOTT. —?

Hab. Sicily.

Species 132. (Mus. Brit.)

CLAUSILIA RUGILABRIS. *Cla. testā subfusiformi, brevi, levi, cornēt et pruinosa; anfractibus apicalibus parvis, rotundis; aperturā latā, margine crasso, albo, labio externo supernō tumido, sinuato; plicā parietali acutā; columellā biplicatā.*

THE ROUGH-LIPPED CLAUSILIA. Shell subfusiform, short, smooth, horny and plum-coloured; apical whorls small, round; aperture broad, margin thick, white, outer lip tumid above, sinuous; parietal fold sharp; columella with two plaits.

MOUSSON. Pfeiffer. Mon. Hel. VI. p. 475.

Hab. Near Janina, Greece.

Having a singularly broad and thick-lipped mouth.

Species 133. (Mus. Brit.)

CLAUSILIA STRAMINICOLLIS. *Cla. testā pruinosa, fusiformi, ləri, infra medium subcentricosā; anfractibus novenis, straminco ad suturam tæniatis; aperturā aurantiā, oblongā, posticè angustatā et attenuatā, labio interno biplicato.*

THE STRAW-NECKED CLAUSILIA. Shell plum-coloured, fusiform, smooth, ventricose below the middle;

whorls nine, with a straw-coloured band at the suture; aperture orange, oblong, posteriorly narrow and attenuated, inner lip with two plaits.

PARREYS. Küster, Claus. p. 341.

Hab. Transylvania.

Species 134. (Mus. Sowerby ?)

CLAUSILIA CALCAREA. *Cla. testā brevi, fusiformi, ləvigate; cornēt; anfractibus undecenis, medianis et inferioribus altis, ventricosis; aperturā magnā, margine crasso; plicā parietali parvā, plicā columellarī elevatā, plicā subinternā infrā prope columellā curvā.*

THE CALCAREAN CLAUSILIA. Shell short, fusiform, smooth, horny; whorls eleven, middle and lower high, ventricose; aperture large, margin thick; parietal plait small, columellar plait raised, subinternal plait curved below near the columella.

PHILIPPI. Pfeiffer. Mon. Hel. II. 453.

Clausilia assimilis. Zeigler.

Hab. Sicily.

Species 135. (Mus. Brit.)

CLAUSILIA BILABIATA. *Cla. testā subfusiformi, fulvā, tenuiter striatā; anfractibus paucis, inferioribus convexis, ventricosis; aperturā subovatā, prope suturam subacuminatā; labio externo crasso, supra medium tumido, extēs duplicito; columellā quadriplicatā, plicā superiori brevi, latā, plicā parietali productā.*

THE DOUBLE-LIPPED CLAUSILIA. Shell subfusiform, fulvous, finely striated; whorls few, lower convex, ventricose; aperture subovate, slightly acuminate near the suture; outer lip thick, tumid above the middle, double outside; columella with four plaits, upper plait short, broad, parietal plait produced.

SMITH. Proc. Zool. Soc.

Hab. Japan.





137



136



138



140



139



141



142



143



144

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CLAUSILIA.

PLATE XV.

Species 136. (Mus. Brit.)

CLAUSILIA FILOGRANA. *Cla. testā purvā, fusiformi, pruinosa, tenuiter liratā, liris filiformibus; aperturā pallidè aurantiā, parvā, columellā medio latè pliatā, plicā inferiori minutā, plicā parietali inconspicuā, labio externo supernè acuminato, sinuato.*

THE THREAD-GRAINED CLAUSILIA. Shell small, fusiform, plum-coloured, finely ridged, ridges thread-like; aperture pale orange, small, columella broadly plaited in the middle, lower plait minute, parietal plait inconspicuous, outer lip acuminate above, sinuous.

ZEIGLER. Pfr. Mon. Hel. II. p. 409.

Clausilia interrupta. —?

Hab. Silesia, Croatia, Austria.

Species 137. (Mus. Brit.)

CLAUSILIA AQUILA. *Cla. testā brevi, latā, lavigatā, supernè angustatā, infrā ventricosā, pallidè lilacina; aperturā maximā, aurantiā; margine crasso, plicā columellarī magnā, prominenti.*

THE EAGLE CLAUSILIA. Shell short, broad, smooth, narrow above, ventricose below, pale lilac; aperture very large, orange; margin thick, columella large, prominent.

PARREYS. Rossmässler, Icon. III. p. 43.

Hab. Dalmatia.

Species 138. (Mus. Brit.)

CLAUSILIA CANA. *Cla. testā brevi, ventricosā, fusiformi, striatā, fuscā, maculis densioribus variegatā; anfractibus novenīs, superioribus attenuatis; aperturā auriformi, plicā parietali ad suturam approximatā, plicā columellarī latè laminatā.*

THE HOARY CLAUSILIA. Shell short, ventricose, fusiform, striated, brown, varied with darker coloured spots; whorls nine, upper attenuated; aperture ear-shaped, parietal plait near the suture, columellar plait broadly laminar.

HELDÉMAN. Küst. p. 193.

Clausilia tessellata. Parreys?

Species 139. (Mus. Brit.)

CLAUSILIA STIGMATICA. *Cla. testā brevissimā, ventricosā, lœvi; anfractibus medianis et inferioribus inflatis, ad suturam tuberculis parvis albī ornatis; aperturā subquadratā, magnā, labio interno biplicato, supernè interrupto.*

THE STIGMATIC CLAUSILIA. Shell very short, ventricose, smooth, middle and lower whorls inflated, ornamented at the suture with small white tubercles; aperture rather square, large, inner lip two-plaited, interrupted above.

ZEIGLER. Pfr. Mon. Hel. II. 424.

Hab. Dalmatia.

Species 140. (Mus. Brit.)

CLAUSILIA BUSCHI. *Cla. testā brevi, pyramidatā, pallidè cornē, lœvi, semipellucidā; anfractibus novenīs, convexis; aperturā parvā, auriformi, plicā parietali et columellarī parvis.*

BUSCH'S CLAUSILIA. Shell short, pyramidal, pale horny, smooth, semipellucid; whorls nine, convex; aperture small, auriform, parietal and columellar plaits small.

KÜSTER. Martens in Malak. Bl. VII.

Hab. Japan.

Species 141. (Mus. Brit.)

CLAUSILIA BORNEENSIS. *Cla. testā altā, pyramidali, fuscā; anfractibus decenis, inflatis; aperturā aurantiā, auriformi, tortuosim versus latū destrum productā, supernè acuminatā, margine crasso, labio interno biplicato.*

THE BORNEAN CLAUSILIA. Shell high, pyramidal, brown; whorls ten, inflated; aperture orange, ear-shaped, tortuously bent back towards the right side, acuminate above, margin thick, inner lip two-plaited.

PFEIFFER. Mon. Hel. IV. 736.

Hab. Borneo.

The mouth is peculiarly bent over towards the right side of the shell.

CLAUSILIA.—PLATE XV.

Species 142. (Mus. Brit.)

CLAUSILIA MACASCIARIENSE. *Cla. testā lilacinā, subventricosā, pyramido-fusiformi; anfractibus decenīs, inferioribus altis, latis, rectilateralibus, ultimo elongato, ad medium dorsi depresso, liris inaequalibus, irregularibus rugato; aperturā aurantiā, magnā, obliquā, subauriformi, supernū acuminato, plicā parietali acutā productā, plicā columellari magnā, angulatim productā.*

THE MACASCAR CLAUSILIA. Shell lilac, subventricose, pyramidal, fusiform; whorls ten, lower high, broad, rectilateral, last elongated, depressed at the middle of the back, wrinkled with unequal irregular ridges; aperture orange, large, parietal plait sharply produced, columellar plait large, angularly produced.

SOWERBY.

Clavisilia corrugata. Menke.

Clavisilia Macarana. Zeigler.

Hab. Macascar.

Species 143. (Mus. Sowerby.)

CLAUSILIA DELESSERTII. *Cla. testā fusiformi, pruinosis, tenuissimè liratā; anfractibus undecenis, albo marginatis, obliquis; ultimo prope terminum ad dorsum depresso et subcarinato; aperturā prominenti, subovatā, margine albo, lato, reflexo, plicā columellari magnā, obliquè productā.*

DELESSERT'S CLAUSILIA. Shell fusiform, plum-coloured, finely ridged; whorls eleven, bordered

with white, oblique; last depressed or partly keeled near the end at the back; aperture prominent, subovate, margin white, broad, reflected, columellar plait large, obliquely produced.

BOUROUIGNAT. Mon. Hel. IV. 774.

Hab. Syria.

Figure 144. (Mus. Brit.)

CLAUSILIA FUNICULUM. Already given in Plate VIII. f. 71, and repeated here by error.

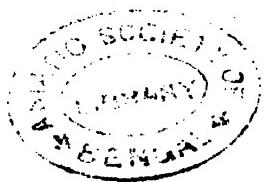
Species 145. (Mus. Brit.)

CLAUSILIA CALLOSA. *Cla. testā pruinosis, laminatim tenuissimè liratā, elongatā, angustissimā medio et infrā rectilateralē; anfractibus decenīs, altis, ultimo elongato, ad dorsum infrā obliquè sulco impresso; aperturā auriformi, infrā productā, margine crasso, plicā parietali minutā, plicā columellari obliquè acuminatā; altissimā, plicā internā conspicuā.*

THE CALLOUS CLAUSILIA. Shell plum-coloured, with fine laminar ridges, elongated, very narrow, straight-sided in the middle and below; whorls ten, high, last elongated, impressed at the back below with an oblique groove; aperture auriform, produced below, margin thick, parietal plait minute, columellar plait obliquely acuminated, very high; a conspicuous inner plait.

MUHLFELDI. Pfr. Mon. Hel. II. 419.

Hab. Dalmatia.





146.



147.



148.



149.



150.



151.



152.



153.



154.



155.

CLAUSILIA.

PLATE XVI.

Species 146. (Mus. Sowerby.)

CLAUSILIA CINEREA. *Cla. testā brevi, lāvi, subcæruled, anfractibus octonis, apicalibus quaternis fuscō-nigrescentibus, medianis et inferioribus subventricosis, ultimo profundē rimato, aperturā pallidē castaneā, latā, rotundā, margine tenui, parūm reflexā, plicā columellari elevatā, linearī, plicā parietali sutura approximatā, acutā.*

THE ASHY CLAUSILIA. Shell short, smooth, blueish; whorls eight, four apical blackish brown, middle and lower rather ventricose, last deeply notched; aperture pale chestnut, broad, rounded, margin thin, a little reflected; columellar plait raised, linear parietal plait close to the suture, sharp.

PHILIPPI. A. Schmidt. Clausilia, p. 108.

Clausilia ominosa. Zeigler.

Clausilia teres. Delle Chiaje.

Hab. Naples.

Species 147. (Mus. Sowerby.)

CLAUSILIA COCHIN-CHINENSIS. *Cla. testā breviusculā, solidi, fuscō-griseā, tenuissimè, oblique liratā; anfractibus novenisi, infrā latis, altis, convexiūsculis, ultimo profundē rimato; aperturā auriformi, pallidē carneā, supernē subacuminatā, sinuatā; margine crasso, reflexo, plicā parietali parvā, tenui, plicā columellari magnā, percrevata.*

THE COCHIN-CHINA CLAUSILIA. Shell rather short, solid, brownish-grey, very finely obliquely ridged; whorls nine, broad below, high, rather convex, last deeply notched; aperture auriform, pale flesh, rather acuminate above, sinuated; margin thick, reflected, parietal plait small, thin, columellar plait large, much raised.

PFEIFFER. Mon. Hel. VI. p. 443.

Hab. Cochin-China.

Species 148. (Mus. Sowerby.)

CLAUSILIA GOULDIANA. *Cla. testā solidā, pallidē fulvā, levi, fusiformi, ventricosissimā; anfractibus septenisi, inferioribus altis, convexis, ultimo obliquā contracto, suturā distinctā; aperturā latā, labio externo albo, crasso, latē reflexo, supernē sinuato, submarginato, plicā parietali prominenti, acutā; plicā columellari obliquā, elevatā, linearī.*

GOULD'S CLAUSILIA. Shell solid, pale fulvous, smooth,

fusiform, very ventricose; whorls seven, lower high, convex, last obliquely contracted, suture distinct; aperture wide, outer lip white, thick, broadly reflected, sinuous above, subomarginate, parietal plate prominent, sharp; columellar plait oblique, elevated, linear.

PFEIFFER. Novil. Conch. p. 123.

Hab. Burmah.

Species 149. (Mus. Sowerby.)

CLAUSILIA TRISTRAMI. *Cla. testā pruinosa, fusiformi, tenuissimè liratā; anfractibus tridecenisi, superioribus levibus, attenuatis, medianis et inferioribus ventricosis, ultimo divaricatum impresso; aperturā castanā, margine albo, plicis parietali et columellari tenuibus.*

TRISTRAM'S CLAUSILIA. Shell plum-coloured, fusiform, very finely ridged; whorls thirteen, upper smooth, attenuated, middle and lower ventricose, last impressed divergently; aperture chestnut, margin white, parietal and columellar folds thin.

PFEIFFER. Mon. Hel. VI. p. 481.

Hab. Tunis.

The former figure of this species, given in Plate V., was not so characteristic as the present, which, however, is only introduced by inadvertence.

Species 150. (Mus. Sowerby.)

CLAUSILIA RAYMONDI. *Cla. testā fulvā, inter costis pruinosa, costellis filiformibus lirata, angusti, rectilaterali, altā; anfractibus decenis, medianis et inferioribus altis, ultimo infrā contracto, prolongato, laevato, tortuo, ad dorsum obliquā bicarinato; aperturā distanti, productā, auriformi, margine tenui expanso, plicis parietali et columellari tenuibus, approximatissimis.*

RAYMOND'S CLAUSILIA. Shell fulvous, plum-coloured between the ribs, ridged with filiform ribs, narrow, straight-sided, high; whorls ten, middle and lower high, last contracted, prolonged, uncoiled, tortuous, obliquely bicarinated at the back; aperture distant, produced, ear-shaped, margin thin and expanded, parietal and columellar plaits thin, close together.

BOURGUIGNAT. Pfeiffer. Mon. Hel. VI. p. 513.

Hab. Syria.

CLAUSILIA.—PLATE XVI.

Species 151. (Mus. Sowerby.)

CLAUSILIA BOISSIERI. *Cla. testā subcærulē, fusiformi, breviūsculā, levigatā; anfractibus decenis, apicalibus fuscō-nigrescentibus, medianis et inferioribus gradatim inflatis, ultimo prolongato, lirato, tortuo, laeato, carinis duabus convergentibus desinenti; aperturā latā, fulvā, productā, margine tenui, expanso, supernē sinuato, plicā parietali minutā, plicā columellari altā, prominenti.*

BOISSIER'S CLAUSILIA. Shell blueish, fusiform, rather short, smooth; whorls ten, apical blackish-brown, middle and lower gradually inflated, last prolonged, ridged, tortuous, uncoiled, ending in two converging keels; aperture broad, fulvous, produced, margin thin, expanded, sinuous above, parietal plait minute, columellar plait high, prominent.

CHARPENTIER. Pfr. Mon. Hel. p. 513.

Hab. Syria.

This species has a couple of wrinkled keels converging at the bottom of the last whorl.

Species 152. (Mus. Sowerby.)

CLAUSILIA VARIANS. *Cla. testā pallidē cornēd, semi-pellucidā, tenuissimē liratā, tenui, subfusiformi, medio gradatim inflatā; aperturā subovatā, parvā, margine supernē sinuatim emarginato, plicis parietali et columellari tenuibus, subapproximatis.*

THE VARYING CLAUSILIA. Shell pale horn, semi-pellucid, very finely ridged, thin, subfusiform, gradually swelled in the middle; aperture subovate, small, margin sinuously notched above, parietal and columellar plaits thin, rather approximate.

ZEIGLER. Pfr. Mon. Hel. II. p. 409.

Hab. Germany.

Species 153. (Mus. Sowerby.)

CLAUSILIA PROXIMA. *Cla. testā brevi, ventricosā, levi, subcærulē, apice aperturāque succinneis; anfractibus octonis apicalibus parvis, medianis, inferioribusque latīs, altīs, inflatis; ultimo profundē rimato, ad dorsum perpendiculariter rugato; aperturā latā, subquadratā, margine tenui, reflexo, plicā parietali parvā, plicā columellari altā, latā.*

THE NEAR CLAUSILIA. Shell short, ventricose, smooth, blueish, apex and aperture amber; whorls eight, apical small, middle, lower broad, high, inflated; last deeply notched, perpendicularly wrinkled at the back; aperture broad, rather square, margin thin, reflected, parietal plait small, columellar plait high, broad.

WALDERDORFF. Syst. Verz. Coll. 1864.

Hab. Cattar.

Species 154. (Mus. Sowerby.)

CLAUSILIA LUNELLARIS. *Cla. testā parvā, fulvā et pruinosa, brevi, tenuissimē striatā; anfractibus novenīs, inferioribus inflatis, altīs; ultimo rimato, ad dorsum maculā semilunari notato; aperturā fulvā, margine paulo expanso, supernē sinuato, emarginato, plicis parietali et columellari minutis, approximatis.*

THE LUNELLAR CLAUSILIA. Shell small, fulvous and plum-coloured, short, very finely striated; whorls nine, lower inflated, high, last notched, marked at the back with a semilunar spot, aperture fulvous, margin a little expanded, sinuous, emarginated, parietal and columellar plaits minute, near together.

PFEIFFER. Mon. Hel. III. p. 608.

Clausilia lunularis by error, Pl. IV. 38.

Hab. Eubœa.

Species 155. (Mus. Sowerby.)

CLAUSILIA BLANDIANA. *Cla. testā brevi, sordidē pruinosa, tenuissimē striatā, subfusiformi; anfractibus septenis, suturā profundā separatis, convexis, ultimo altissimo, prolongato, profundē rimato, laeato, tortuo; aperturā magnā, castaneā, obliquā auriformi, trans latus dextrale extenso, expanso; plicā parietali prominenti, plicā columellari nullā.*

BLAND'S CLAUSILIA. Shell short, dull plum-colour, very finely striated, rather fusiform; whorls seven, separated by a deep suture, convex, last very high, prolonged, deeply notched, uncoiled, tortuous; aperture large, chestnut, obliquely auriform, extended across the right side, expanded, parietal plait prominent, no columellar plait.

PFEIFFER. Mon. Hel. IV. p. 785.

Hab. Santa de Bogota, Columbia.





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CLAUSILIA.

PLATE XVII.

Species 156. (Mus. Sowerby.)

CLAUSILIA CERULEA. *Cla. testā brevi, subcæruled,*
lævi, fusiformi; anfractibus decenis, medianis et
inferioribus inflatis, apicalibus parvis, nigrescenti-
bus, ultimo infrā producto, angustato, rugato, ad
dorsum tuberculato; aperturā intūs castaneā,
margine aureo-fulgā, obliquā, margine tenui, re-
ploso.

THE BLUEISH CLAUSILIA. Shell short, blueish, smooth, fusiform ; whorls ten, middle and lower inflated, apical small, blackish ; last produced below, narrow, wrinkled, with two tubercles ; aperture chestnut within, margin golden-fawn, oblique, margin thin, reflected.

FERRESSAC. Küster, p. 216.

Clausilia birugosa.

Hab. Morea.

Species 157. (Mus. Sowerby.)

CLAUSILIA DALMATINA. *Cla. testā brevissimā, ventri-*
cōsa, pallidō fulvā, tenuissimē striatā; anfracti-
būs octon'is, brevibus, ultimo alto, infrā angustato,
post marginem aperturā unirugato, dorso albo
notato; aperturā latā, margine albo, expanso,
plicā columellari latā.

THE DALMATIAN CLAUSILIA. Shell very short, ventricose, pale fulvous, very finely striated ; whorls eight, short, last high, narrow below, with a wrinkle behind the margin of the mouth ; marked with white at the back, aperture broad, margin white, expanded, columellar plait broad.

PARTSCH. Pfeiffer. Mon. Hel. II. 432.

Clausilia marmorata. Zeigler.

Clausilia epidaurica. Kutsch.

Hab. Dalmatia.

Species 158. (Mus. Brit.)

CLAUSILIA CRITICA. *Cla. testā parvā, tenuiter liratā,*
stramineā, fusiformi; aperturā subovatā, superne
sinuatā, plicā parietali suturā approximatā, colu-
mellā biplicatā, labio externo supra medium
sinuato.

THE CRITICAL CLAUSILIA. Shell small, finely ridged, straw-coloured, fusiform ; aperture subovate, sinuous above, parietal plait near the suture,

columella two-plaited, outer lip sinuated above the middle.

BIELTZ. Küster, p. 263.

Hab. Transylvania.

Species 159. (Mus. Brit.)

CLAUSILIA DUBOISII. *Cla. testā parvā, fulvā, fusiformi,*
tenuiter laminatim liratā; aperturā ovatā, labio
externo supra medium tumido, sinuato; columellā
infra plicam crenulatā, plicis parietali et colu-
mellari ad terminas approximatis, plicā parvā
intermediā.

DUBOIS'S CLAUSILIA. Shell small, fulvous, fusiform, finely laminately ridged ; aperture ovate, outer lip tumid and sinuous above the middle, columella crenulated below the plait, parietal and columellar plaits approximated at the ends with a small intermediate plait.

CHARPENTIER. Küster, p. 270.

Hab. — ?

Species 160. (Mus. Sowerby.)

CLAUSILIA DISTANTILIBATA. *Cla. testā brevi, subpyra-*
midatā, solidā, latā, costis distantibus, crassi-
risculis liratā, inter costas pruinosā, anfractibus
novenīs, apicalibus parvīs, rotundis, fuscis, laevi-
būs, alteris ad suturam subscalatis, aperturā sub-
aurantiā, plicā parietali parvā, plicā columellari
nullā.

THE DISTANT-RIDGED CLAUSILIA. Shell short, pyramidal, solid, broad, ridged with distant, rather thick ribs, plum-coloured between the ribs ; whorls nine, apical small, round, brown, smooth, others with slight steps at the suture ; aperture slightly orange, parietal plait small, columellar plait none.

SOWERBY.

Hab. — ?

Species 161. (Mus. Sowerby.)

CLAUSILIA KÜSTERI. *Cla. testā tenui, cornēd, subfusi-*
formi, lævi, anfractibus duodecenis, apicali turbati-
nato, ultimo infrā subattenuato; aperturā oblongā,
ad suturam elevatā, plicā columellari magnā.

CLAUSILIA.—PLATE XVII.

KÜSTER'S CLAUSILIA. Shell thin, horny, subfusiform, smooth, whorls twelve, apical turbinated, last attenuated below; aperture oblong, raised at the suture; columellar plait large.

ROSSMÄSLER. Pfeiffer. Mon. Hel. II. 399.

Clausilia substrigata. Küster?

Hab. Sardinia, Corsica.

coloured, very finely striated, fusiform; last whorl with a keel at the back below, tumid before the aperture, then drawn in; aperture fulvous, oblong, with a perpendicular internal plait; columella two-plaited.

MOUSSON. — ?

Hab. Mountains in Europe.

Species 162. (Mus. Brit.)

CLAUSILIA SEPTEMPPLICATA. *Cla. testā fuscā, lèvi, fusiformi, medianè ventricosā; anfractibus novenis, ad suturam minutè albo tuberculatis, ultimo prolongato, ad dorsum stigmate albo elongato flexuoso notato; aperturā magnā, margine albo, plicā parietali minutā, plicā columellari elongata, plicis internis et subinternis quinque.*

THE SEVEN-PLAITED CLAUSILIA. Shell brown, smooth, fusiform, middle ventricose; whorls nine, with minute white tubercles at the suture, last prolonged, marked at the back with a white, long, flexuous stigma; aperture large, margin white, parietal plait minute, columellar plait elongated, interior and subinterior plaits five.

PHILIPPI. Pfr. Mon. Hel. II. p. 452.

Clausilia prasina. Benson.

Clausilia sublaevis. Zeigler.

Clausilia sericina. Rossmäsler.

Hab. Sicily.

Species 164. (Mus. Sowerby.)

CLAUSILIA LOWEI. *Cla. testā parvā, pruinosa, subdistanter liratā, liris filiformibus; anfractibus decenisi, medianis inferioribus convexis; aperturā subauriculata, multiplicata.*

LOWE'S CLAUSILIA. Shell small, plum-coloured, rather distantly ridged, ridges filiform; whorls ten, middle and lower convex; aperture pale orange, many-plaited.

ALBERS. Küster, p. 177.

Clausilia deltostoma. De Paiva.

Hab. Madeira.

Species 165. (Mus. Sowerby.)

CLAUSILIA VIBEX. *Cla. testā brevi, ventricosa, pallide pruinosa; anfractibus novenis, ad suturam minutissimè plicatis, ultimo profundè rimato, infrà subcarinato; aperturā magnā, margine tenui, expanso, plicis parietali et columellari crassis; labio externo superne incrassato.*

THE BRUISE-MARK CLAUSILIA. Shell short, ventricose, pale plum-colour; whorls nine, very finely plaited at the suture, last deeply notched, with a slight keel below; aperture large, margin thin, expanded, parietal and columella thick, outer lip thickened above.

ROSSMÄSLER. Pfeiffer. Mon. Hel. II. p. 455.

Clausilia diplana. Heutz.

Hab. Central Croatia.

Species 163. (Mus. Sowerby.)

CLAUSILIA MONTANA. *Cla. testā parvā, pruinosa, tenuissimè striatā, fusiformi; anfractu ultimo ad dorsum infrà subcarinato, ante aperturam tumido, tum coarctato, aperturā fulva, oblonga, plicā internd perpendiculuri, columellā biplicatā.*

THE MOUNTAIN CLAUSILIA. Shell small, plum-

CLAUSILIA.

	Plate.	Species.		Plate.	Species.
<i>chictorii</i> , Dupuy	IX.	77	<i>Chersonensis</i> , Ferrussac	V.	41
<i>aculus</i> , Adam	X.	94	<i>cinerea</i> , Schmidt	XVI.	146
<i>albocineta</i> , Pfr. <i>Invissima</i>			<i>clathrata</i> , Rossmäster	III.	23
<i>alboguttulata</i> , Meyner	VI.	56	<i>claviformis</i> , Pfeiffer	XII.	108
<i>anatolica</i> , Rothman	II.	11	<i>Cochin-chinensis</i> , Pfeiffer	XVI.	147
<i>anceps</i> , Zeigler	IV.	30	<i>colbeniana-plumbea</i>		
<i>angustata</i> , Bielz	VI.	50	<i>commutata</i> , Rossmäster	IX.	85
<i>aquila</i> , Parreys	XV.	137	<i>compressa</i> , Pfeiffer	XII.	113
<i>Arakana</i> , Theobald	IX.	78	<i>concilians-pagana</i>		
<i>assimilis</i> , Zeigler	XIV.	134	<i>consentanea</i> , Zeigler	VI.	55
<i>bacillum</i> , Benson	VI.	48	<i>conspersa</i> , Parreys	IV.	29
<i>Badia</i> , Zeigler	XII.	117	<i>consimilis</i> , Zeigler	IV.	30
<i>Bartletti</i> , A. Adams	I.	2	<i>contaminata</i> , Zeigler	XIV.	126
<i>Belcheri</i> , Pfeiffer	XII.	107	<i>cornea-binolabra</i>		
<i>Bergeri</i> , Mayer	XI.	103	<i>corpulenta</i> , Kutschiz	XIII.	124
<i>Bengalensis</i> , Busch	VII.	61	<i>corrugata</i> , Menke	XV.	142
<i>bidens</i> , Linnaeus	IX.	76	<i>corticina</i> , Von Busch	XIII.	123
<i>bidentula</i> , Mörch	IV.	31	<i>corticolla</i> , Parr	XIII.	124
<i>Bielzi</i> , Parreys	III.	23	<i>costulata</i> , Wood	I.	1
<i>binotata</i> , Rossmäster	VI.	55	<i>crassicostata</i> , Benoit	VIII.	74
<i>bilabiata</i> , Wagner	VII.	57	<i>crenata</i> , Menke	VI.	56
<i>bilabrata</i> , Smith	XIV.	135	<i>crenulata</i> , Ferrussac	V.	45
<i>biplicata</i> , Montague	I.	3	<i>crispa</i> , Lowe	III.	26
<i>hipastulata</i> , Küster	VI.	55	<i>critica</i> , Bielz	XVII.	158
<i>Blanda</i> , Zeigler	VIII.	68	<i>cruda</i> , Schmidt	XIII.	117
<i>Blandiana</i> , Pfeiffer	XVI.	155	<i>cyclostoma</i> , Pfeiffer	VII.	63
<i>Boissieri</i> , Charpentier	XVI.	151	<i>cylindrellæformis</i> , Bourguignat	III.	22
<i>Borneensis</i> , Pfeiffer	XV.	141	<i>cylindrica</i> , Hanley	VII.	65
<i>bulbus</i> , Benson	VI.	51	<i>cylindrica</i> , Gray	II.	18
<i>Buschii</i> , Küster	XV.	140	<i>cumingiana</i> , Pfeiffer	X.	88
<i>coerulea</i> , Ferrussac	XVII.	156	<i>dacia</i> , Frivaldszky's	XI.	96
<i>calcaria</i> , Philippi	XIV.	134	<i>Dalmatinæ</i> , Partsch	XVII.	157
<i>calllosa</i> , Muhlfeldt	XV.	145	<i>decipiens</i> , Zeigler	III.	19
<i>cambojensis</i>			<i>decorata</i> , Zeigler	II.	15
<i>Cania</i> , Heldeman	XV.	138	<i>Delessertii</i> , Bourguignat	XV.	143
<i>canaliculata</i> , Pfeiffer	XIV.	128	<i>deltostoma</i> , Lowe	III.	28
<i>candidilabris</i> , Porro	II.	17	<i>Democletiana</i> , Menke	VI.	54
<i>cattaroensis</i> , Zeigler	VII.	64	<i>denegabalis</i> , Zeigler	II.	14
<i>castanea</i> , Küster	VIII.	68	<i>denticulata</i>		
<i>castalia</i> , Roth	XIII.	125	<i>deplana</i> , Stentz	XVII.	165
<i>eccliei</i> , Philippi	IX.	80	<i>derugata</i> , Jeffreys	II.	13
<i>cerea</i> , Menke	VI.	49	<i>didyma</i> , Parreys	IV.	31
<i>Charpentieri-cattaroensis</i>			<i>discolor</i> , Pfeiffer	III.	20

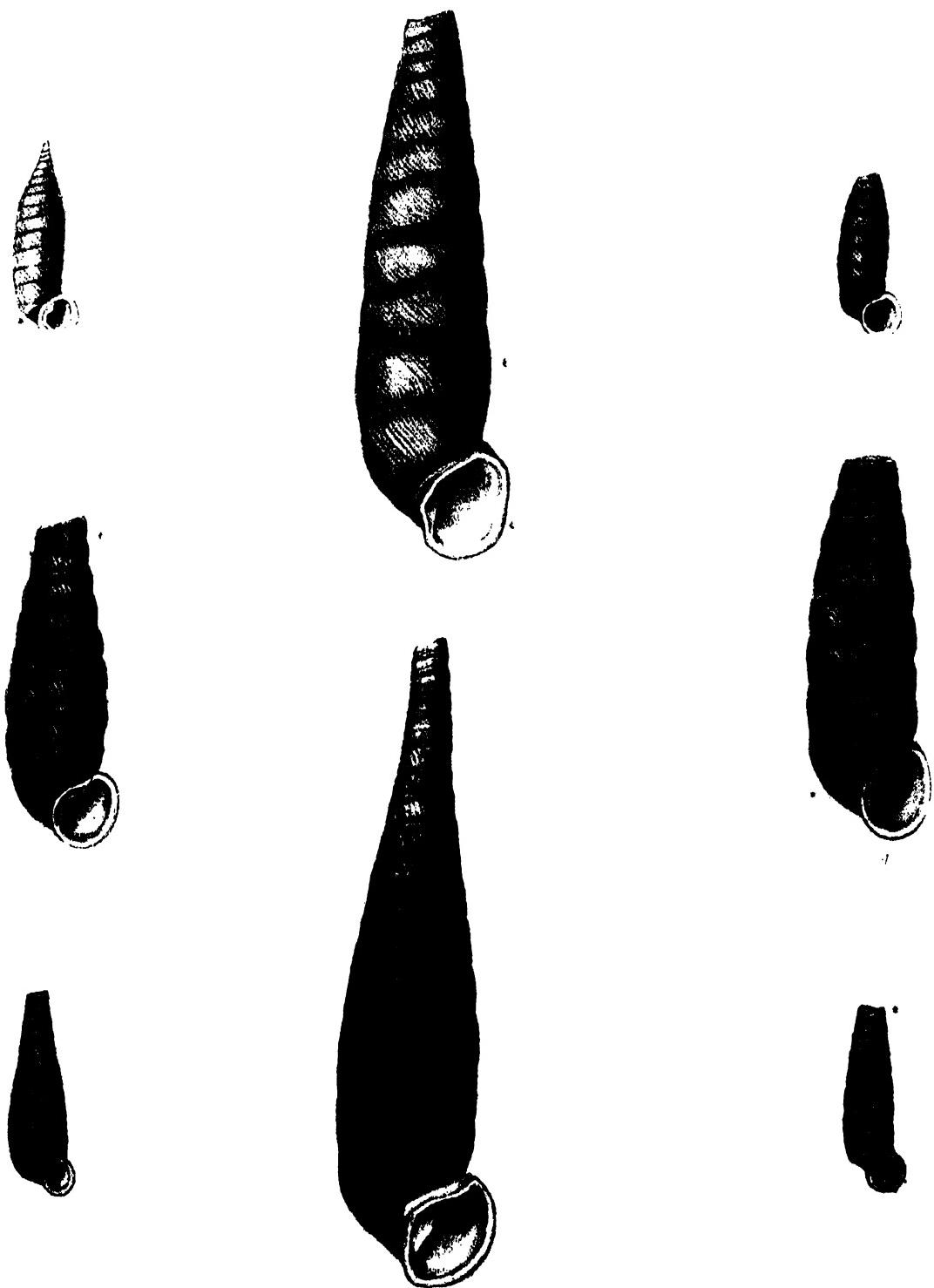
CLAUSILIA.

	Plate.	Species.		Plate.	Species.
distantilibrata, <i>Sowerby</i>	XVII.	160	interrupta.....	XV.	136
distans, <i>Pfeiffer</i>	XII.	112	irregularis, <i>Zeigler</i>	XI.	97
Dohrnii, <i>Pfeiffer</i>	IX.	81	Itala, <i>Martens</i>	VI.	56
Duboisii, <i>Charpentier</i>	XVII.	159	Javana, <i>Pfeiffer</i>	IV.	33
dubia, <i>Draparnaud</i>	IX.	77	Jos, <i>Benson</i>	VIII.	75
elata-somchetica			Kobensis, <i>Smith</i>	X.	92
elegantula, <i>Parreys</i>	IV.	31	Küsteri, <i>Rossmässler</i>	XVII.	161
elegans, <i>Bielz</i>	II.	12	Kutschii, <i>Küster</i>	XIII.	124
elongata, <i>Cantraine</i>	III.	27	labiatu, <i>Sowerby</i>	I.	1
epidaurica, <i>Kutsch</i>	XVII.	157	labiocrossa, <i>Muhlfeldt</i>	VII.	57
Eubawa, <i>Parreys</i> *	XIV.	128	levigata, <i>Muhlfeldt</i>	VII.	64
exarata, <i>Zeigler</i>	II.	14	levigata, <i>Muhlfeldt</i>	II.	15
exilis (succineata var.), <i>Lowe</i>	XII.	106	levissima, <i>Zeigler</i>	II.	15
excavata			lamellata, <i>Leach</i>	II.	13
excellens, <i>Pfeiffer</i>	X.	89	laminata, <i>Montagu</i>	II.	13
exigua			latilabris, <i>Muhlfeldt</i>	II.	17
exilis, <i>Adams</i>	I.	8	latistriata, <i>Parreys</i>	IV.	34
fasciolaris, <i>Parreys</i>	V.	41	lerosicensis, <i>Ferrussac</i>	XI.	105
fallax, <i>Rossmässler</i>	III.	19	lesinacensis, <i>Parreys</i>	VII.	64
filiformis, <i>Parreys</i>	V.	39	lineolata, <i>Pfeiffer</i>	IV.	36
filigrana, <i>Zeigler</i>	XV.	136	Lischiana, <i>Bielz</i>	XIII.	116
fimbriata, <i>Muhlfeldt</i>	VIII.	67	litigiosa, <i>Zeigler</i>	IV.	30
fluvialis, <i>Benson</i>	X.	91	livens, <i>Bielz</i>	XIII.	116
fontana, <i>Schmidt</i>	XIII.	117	Lowei, <i>Küster</i>	XVII.	164
formosa			loxostoma, <i>Benson</i>	VII.	61
Formosenses, II. <i>Adams</i>	I.	4	luc'da, <i>Menke</i>	II.	13
Fortunei, <i>Pfeiffer</i>	XI.	102	lucostigma, <i>Zeigler</i>	II.	17
Frauenfeldi, <i>Zelebor</i>	XI.	99	lunellaris, <i>Pfeiffer</i>	XVI.	154
Freyerii, <i>Küster</i>	III.	27	Macarana	I.	7
fulcrata			Macascarensis, <i>Sowerby</i>	I., XV.	7, 142
fulginea, <i>Parreys</i>	II.	15	Macrostoma, <i>Cantraine</i>	XIV.	130
funiculum, <i>Crosse</i>	VIII.	71	Marcelia, <i>Risso</i>	IV.	31
fusiformis, <i>Blanford</i>	VII.	62	maderensis, <i>Fassendorf</i>	XIV.	127
gastrolepa, <i>Zeigler</i>	III.	27	magnifica, <i>Parreys</i>	VII.	58
glabrata, <i>Muhlfeldt</i>	II.	15	marginata, <i>Zeigler</i>	VI.	54
Gouldiana, <i>Pfeiffer</i>	XVI.	148	Maranhensis, <i>Albers</i>	XIII.	122
gracile, <i>Pfeiffer</i>	IX.	77	marmorata, <i>Parreys</i>	VI.	49
gracilicosta, <i>Kryn</i>	VIII.	73	Masoni, <i>Theobald</i>	VIII.	69
granatina, <i>Zeigler</i>	II.	13	Meisneriana, <i>Shuttleworth</i>	X.	87
grossa, <i>Parreys</i>	IV.	30	maxima, <i>Parreys</i>	IV.	30
Hanevi, <i>Bielz</i>	XII.	115	mediterranea, <i>Gray</i>	IX.	76
Hindobonensi, <i>Pfeiffer</i>	IX.	77	minima, <i>Parreys</i>	III.	21
honorifica, <i>Parreys</i>	VII.	58	Molluccensis=commutata		
Idea, <i>Pfeiffer</i>	XII.	111	Montagne, <i>Gray</i>	I.	3
imbecilis, <i>Parreys</i>	III.	27	Montana, <i>Mousson</i>	XVI.	163
index, <i>Mousson</i>	IX.	79	Mortilleti, <i>Dumont</i>	III.	24
inflata, <i>Delle</i>	XIV.	130	Mouhoti, <i>Pfeiffer</i>	II.	16
insignis, <i>Gould</i>	VI.	53	muralis, <i>Studer</i>	IV.	30
intercedens, <i>Schmidt</i>	II.	12	nigricans, <i>Pulteney</i>	IV.	31

MONOGRAPH
OF THE GENUS
CYLINDRELLA.

O LORD of heaven, and earth, and sea,
To Thee all praise and glory be ;
How shall we show our love to Thee,
Who givest all ?

Bishop Christopher Wordsworth.



C Y L I N D R E L L A.

PLATE I.

Genus CYLINDRELLA, Pfeiffer.

Testa terrestris, elongato-turrita, plerimque dextralis; anfractibus numerosis, apicalibus, deciduis; aper- tura plerimque ovata, margine continuo.

Shell terrestrial, elongate-turreted, generally dextral; whorls numerous, apical, deciduous; aperture usually ovate, with continuous margin.

The *Cylindrella* are much more variable in form than the *Clavilidae*, and are without the internal plate or *clavarium* which distinguish that genus. The first-formed whorls generally fall off when the shell is advanced in growth. In many species the aperture is brought round suddenly, so as to form a sort of crease (*rima*) with the coiled part of the body-whorl. In others the last whorl is distorted or uncoiled (*solutus*), so as to place the aperture at a distance from the body of the shell. In a very few, the margin of the aperture is interrupted by the ventral bulge of the whorl. Considerably more than one-third of the reported species are from the island of Cuba, one-fifth from Jamaica; another fifth would be made up between Haiti and Mexico; leaving very few for a dozen other isolated localities, including Great Britain, which produces four or five.

Species 1. (Mus. Brit.)

CYLINDRELLA ASPERA. *Cyl. testa solidâ, pupiformi, albido vel roseâ, striatâ, versus apicem pyramidatâ; medio et infra cylindricâ; anfractibus sexdecenie, apicalibus inclusis, ultimo rimato; apertura subrotundâ, margine crasso, columellâ intus plicatâ.*

THE ROUGH CYLINDRELLA. Shell solid, pupiform, whitish or rose, striated, pyramidal towards the apex, cylindrical in the middle and below; whorls sixteen (including apical), last notched; aperture rather round, margin thick, columella plaited within.

ADAMS. Pfeiffer, Mon. III. p. 564.
Hab. Jamaica.

Species 2. (Mus. Brit.)

CYLINDRELLA SPECIOSA. *Cyl. testa magnâ, solidiusculâ, cylindrico-subpyramidalâ, obliquè striatâ, olivaceâ,*

ventricosâ; anfractibus permanentibus undecenies, paulò convexis, ad suturam crenatis, quinque inferi- oribus subæqualibus, ultimo angulato, contracto, longè rimato, supra aperturam arcuato; apertura auriformi, margine superiori subflexuosa, columellâ vix plicatâ.

THE SPECIOUS CYLINDRELLA. Shell large, rather solid, cylindrico-subpyramidal, obliquely striated, olive, ventricose; permanent whorls eleven, a little convex, crenated at the suture, five lower nearly equal, last angular, contracted, with a long crease, arched above the aperture; aperture auriform, upper margin rather flexuous, columella hardly plaited.

DUNKER. Pfeiffer, Mon. IV. p. 695.

Hab. Columbia.

This handsome species loses its primary whorls far down from the apex, so as to make a broadly-truncated break.

Species 3. (Mus. Brit.)

CYLINDRELLA SPLENDIDA. *Cyl. testa ventricosâ, solidi- usculâ, obliquè costatâ, corneo-violacea; anfracti- bus permanentibus octonis, medium inflatis, ultimo contracto, longè rimato, supra marginem apertura arcuato; apertura auriformi, columellâ leviter biplicata.*

THE SPLENDID CYLINDRELLA. Shell ventricose, rather solid, obliquely ribbed, fleshy violet; permanent whorls eight, middle inflated, last contracted, with a long notch, arched above the margin of the aperture; aperture auriform, columella slightly biplicated.

DUNKER. Proc. Zool. Soc. 1860, p. 139.

Hab. Mexico.

Species 4. (Mus. Brit.)

CYLINDRELLA GRANDIS. *Cyl. testa magnâ, cylindricâ, latâ, tenuiusculâ, tenuiter striatâ, fusco-rubescenti, suturâ albido-marginatâ; anfractibus permanenti- bus octonis, altis, quaternis inferioribus subæquali- bus, ultimo contracto, angulato, profunde rimato; apertura magnâ, latè subovatâ; columellâ rectius- culâ.*

CYLINDRELLA.—PLATE I.

THE LARGE CYLINDRELLA. Shell large, cylindrical, broad, finely striated, reddish-brown, suture bordered with whitish; permanent whorls eight, high, the four lower nearly equal, last contracted, angular, deeply notched; aperture large, broadly subovate; columella rather straight.

PFEIFFER. Proc. Zool. Soc. 1860, p. 139.

Hab. Mexico.

Much more cylindrical than the preceding, and more finely sculptured.

Species 5. (Mus. Brit.)

CYLINDRELLA ARISTISPICA. *Cyl. testū solidā, subpyramidalē, infra medium tumidā, fuscō-olivaceā, fuscō-rubescēti strigatā, regulariter striatā, superne noncontractā, medio et infrā subventricosā; anfractibus permanentibus sexdecenīs, depressis, ultimo contracto, rimato; aperturā subrotundā, margine crasso, rotundo, columellā subuplicatā.*

THE CORN-SPIKE CYLINDRELLA. Shell solid, rather pyramidal, tumid below the middle, olive-brown, striped with reddish-brown, regularly striated, contracted above, rather ventricose in the middle and below; permanent whorls sixteen, depressed, last contracted, notched; aperture roundish, margin thick, round, columella slightly plaited.

PFEIFFER. ? MS. Mus. Brit.

Hab. —?

Species 6. (Mus. Brit.)

CYLINDRELLA EXIMA. *Cyl. testū solidā, cylindricā, rectigondā, lāvigatā, griseā, supra suturam fasciatā, maculis rubris articulatā, infra suturam fascia-fulvā, immaculatā, ornatā; anfractibus permanentibus octonīs, ultimo angulato, subcontracto; aperturā subtrapezoidā.*

fulvā, maculis rubris articulatā, infra suturam fascia-fulvā, immaculatā, ornatā; anfractibus permanentibus octonīs, ultimo angulato, subcontracto; aperturā subtrapezoidā.

THE EXQUISITE CYLINDRELLA. Shell solid, cylindrical, straight-sided, smooth, grey, ornamented above the suture with a fulvous band articulated with red spots, and under the suture with a spotless fulvous band; permanent whorls eight, last angular, rather contracted; aperture subtrapezoidal.

PFEIFFER. Proc. Zool. Soc. 1858, p. 23.

Hab. Haiti.

Species 7. (Mus. Brit.)

CYLINDRELLA GHEISBREGHTI. *Cyl. testū magnū, solidū, fumoso-fuscā, medio et infrā latā, bulbosā, superne contractā; sulcis irregulariter undulis rugatā; anfractibus permanentibus sexdecenīs, superioribus senis angustis, alteris gradatim crescentibus, ultimo infrā contracto, angulato, rimato, supra marginem superiorem aperturā fornicate; columellā uniplicatā.*

GHEISBREGHT'S CYLINDRELLA. Shell large, solid, smoky-brown, broad and bulbous in the middle and below, contracted above, wrinkled with irregular, wavy grooves; permanent whorls sixteen, upper six narrow, others gradually increased, last contracted below, angular, notched, vaulted above the upper margin of the aperture; columella single-plaited.

PFEIFFER. Mon. IV. p. 694.

Hab. Chiapa, Mexico.

A large shell of remarkably bulbous form and wrinkled texture.



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C Y L I N D R E L L A.

PLATE II.

Species 8. (Mus. Brit.)

CYLINDRELLA FLAMMULATA. *Cyl. testā pupaeformi, solidā, griseā, fusco-corneo flammulata, levigatā; anfractibus rectiūsculis, ultimo contracto, angusto, 5 melianis subequalibus, deinde versus apicem contractis; labio integro subrotundo, simplici.*

THE FLAMED CYLINDRELLA. Shell pupa-shaped, solid, grey with horn-brown flames, smooth; whorls rather straight, the last contracted, narrow, five middle nearly equal, thence towards the apex contracted; lip entire, rather round, simple.

PFEIFFER. Monograph ii.

Cylindrella flammulata, Pfeiffer.

Hab. Hayti—St. Domingo.

Species 9. (Fig. a, b, Mus. Brit.)

CYLINDRELLA CYLINDRUS. *Cyl. testā pupaeformi, tenuiter striatā, roseā, purpureā vel albida, anfractibus rectiūsculis, ultimis 5 subequalibus, deinde versus apicem contractis; aperturā productā, labio simplici, columellā intus planatā.*

THE CYLINDER CYLINDRELLA. Shell pupa-shaped, finely striated; pink, purple, or white whorls rather straight, five last nearly equal, thence towards the apex contracted; aperture produced; lip simple; columella flattened within.

CHEMNITZ. Conchological Cabinet.

Cylindrella purpurea, Gray.

Pupa rosea, Adams.

Cylindrella rubella, Adams.

Cylindrella procera, Adams.

Hab. Jamaica.

Species 10. (Mus. Brit.)

CYLINDRELLA ZONATA. *Cyl. testā pupaeformi, tenuiter striatā, purpureā, purpureo-nigrescenti latè zonatā; anfractibus latis, altis, 5 ultimis subequalibus,*

deinde gradatim contractis; aperturā subproductā, subauriformi, intus flexuosa, labio rotundo.

THE BANDED CYLINDRELLA. Shell pupa-shaped, finely striated, purple, broadly banded with blackish-purple; whorls broad, elevated, five last nearly equal, then gradually contracted; aperture rather produced, rather auriform, flexuous within, lip rounded at the margin.

C. B. ADAMS. Pfeiffer's Monograph.

Hab. Jamaica.

Species 11. (Mus. Brit.)

CYLINDRELLA ROSEA. *Cyl. testi angusti, cylindrica, acutè tenuiter striatā, roseā, anfractibus rectiūsculis: 5 ultimis subequalibus, ultimo infrā contracto; aperturā vix solida, aperturā subquadrata; columelli intus latā.*

THE PINK CYLINDRELLA. Shell narrow, cylindrical, sharply and finely striated, pink, whorls rather straight; five last whorls rather equal, last contracted below; aperture scarcely uncoiled, aperture rather square; columella broad within.

CHEMNITZ. Conch. tab. 2, f. 31, 32.

Hab. Jamaica.

In this species, as in *C. aspera*, the striae are sharp and fine.

Species 12. (Mus. Brit.)

CYLINDRELLA SANGUINEA. *Cyl. testā subpupaeformi, sanguined, tenuiter striatā, medio subinflatā, versis apicem contractā; anfractibus depressis, numerosis; aperturā subquadrata, labio incrassato.*

THE SANGUINEOUS CYLINDRELLA. Shell rather pupa-shaped, blood-coloured, finely striated, a little inflated in the middle, contracted towards the apex; whorls depressed, numerous; aperture rather square, lip thickened.

CHEMNITZ. Conch. 7, t. 1, figs. 18–20.

Cylindrella cornea, Adams.

Hab. Jamaica.

CYLINDRELLA.—PLATE II.

Species 13. (Mus. Brit.)

CYLINDRELLA OVIEDOIANA. *Cyl. testā elongato-cylindricā, versū apicem gradatim attenuatā, cornēi, medio rubrā, striis rectiūsculis tenuiter liratā; ultimo anfractū alto; aperturā lateraliter productā, rotundā, margine integro, rotundo.*

THE OVIEDO CYLINDRELLA. Shell elongated-cylindrical, gradually attenuated towards the apex, horny, red in the middle, finely ridged with rather straight striae; last whorl elevated; aperture laterally produced, rounded, margin entire, rounded.

D'ORBIGNY. Mollusca of the Isl. of Cuba, tab. 12, f. 15-17.

Hab. Cuba.

Species 14. (Mus. Brit.)

CYLINDRELLA PROCERA. *Cyl. testā ventricosā, pupae-formi, tenuissimè striatā; anfractibus 4 ultimis subæqualibus, altis, latis, deinde alteris gradatim angustioribus; aperturā rotundo-subquadratā; columellā leviter plicatā, labio crasso, rotundo.*

THE ELEVATED CYLINDRELLA. Shell ventricose, pupa-shaped, very finely striated; four last whorls nearly equal, elevated, broad, thence others gradually narrowing; aperture roundly-subquadrate; columella lightly plaited, lip thick, round.

C. B. ADAMS. Shells of Jamaica.

Hab. Jamaica.

Species 15. (Mus. Brit.)

CYLINDRELLA AMETHYSTINA. *Cyl. testā cylindricā, rectiūsculā, levigatā, rubro-purpureā; anfractibus supernè fusco fuscatis; aperturā magnā, subrotundā, labio subexpanso, profundè incrassato.*

THE AMETHYSTINE CYLINDRELLA. Shell cylindrical, rather straight, smooth, purplish-red; whorl banded above with brown; aperture large, rather rounded, lip somewhat expanded, deeply thickened.

CHTRY. Pfeiffer's Monograph I.

Hab. Jamaica.

A more straight-sided shell than others of the same group.

Species 16. (Mus. Brit.)

CYLINDRELLA ADAMSIANA. *Cyl. testā breviter cylindricā, tenui, levi, corneo variegatā, ad suturam fusco alboque articulatā, aperturā obliquā, lateraliter subproductā, labio rotundo.*

THE ADAMSIAN CYLINDRELLA. Shell shortly cylindrical, thin, smooth, variegated with horn-colour, articulated with brown and white at the suture; aperture oblique, a little produced laterally; lip rounded.

PFEIFFER. Monographia Heliceorum, I.

| Hab. Hayti.



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C Y L I N D R E L L A.

PLATE III.

Species 17. (Mus. Brit.)

CYLINDELLA VENTRICOSA. *Cyl. testā brevi, ventricosā, medio inflatā, suprā infrahē angustatā, anfractibus purpureo alboque strigatis, ultimo brevi, angusto, post columellam excavato; aperturā parvā, rotundā.*

THE VENTRICOSE CYLINDELLA. Shell short, ventricose, inflated in the middle, narrowed above and below, whorls striped with purple and white, last short, narrow, hollowed behind the columella; aperture small, round.

GENDLACH. Pfr. Novit. Conch. p. 250.
Hab. Cuba.

Species 18. (Mus. Brit.)

CYLINDELLA GRAVESII. *Cyl. testā brevi, subcylindrica, infri fuscā, suprā albida, anfractibus rectiusculis, ultimis subequalibus, deinde versus apicem subito contractis; ultimo rimato, breviter soluto; aperturā lateraliter subproductā, rotundā, margine rotundo.*

GRAVE'S CYLINDELLA. Shell short, subcylindrical, brown below, whitish above, whorls rather straight, the last nearly equal, thence towards the apex suddenly contracted; last notched, shortly loosened; aperture rather produced laterally, rounded, with rounded edge.

ADAMS. Pfeiffer, Monographia Heliceorum, iii. 570.
Hab. Jamaica.

Species 19. (Mus. Brit.)

CYLINDELLA SUTURALIS. *Cyl. testā brevi, pupaeformi, rix rimata, tenuiuscula, obliquè minutissimè striata, nitens, cornuta, medio ventricosa, apice attenuata, atro, suturā castaneo marginata; anfractibus 12, convexiusculis, ultimo vix soluto, aperturā obliqua, subcirculari, margine tenui, breviter expanso.*

THE SUTURED CYLINDELLA. Shell short, pupa-shaped, scarcely notched, rather thin, obliquely very minutely striated, shining, horn-coloured, ventri-

cate in the middle, apex attenuated, sharp, suture bordered with chestnut; whorls twelve, rather convex, last very slightly loosened; aperture oblique, rather circular, with thin edge, slightly expanded.

WEINLAND. Mal. Bl. ix. 1862, p. 194.
Hab. Haiti.

Species 20. (Mus. Brit.)

CYLINDELLA SOWERBYANA. *Cyl. testā subpyramidalata, griseo-fuscā, subrimatā, anfractibus vix convervis, eleganter obliquè tiratis, versus apicem gradatim attenuatis, ultimo infrahē subcarinato; aperturā subrotundā; columellā intus laminatim plicato.*

SOWERBY'S CYLINDELLA. Shell subpyramidal, brown-grey, slightly notched; whorls scarcely convex, elegantly obliquely ridged, gradually attenuated towards the apex, the last slightly keeled below; aperture rather rounded; columella with a laminar plait within.

PFEIFFER. Monographia Heliceorum, iii. 372.
Hab. Isl. of Cuba.

Species 21. (Mus. Brit.)

CYLINDELLA CÆRULANS. *Cyl. testā angustatā, elongatā, subcaerulea, fusco-griseo undulatim strigata, versus apicem attenuata, medio vix inflata, anfractibus convexiusculis, numerosis, ultimo contracto, aperturā subobliqua, intus uniplicata, margine tenui.*

THE BLUISH CYLINDELLA. Shell narrow, elongated, bluish, with undulating greyish-brown stripes, attenuated towards the apex, slightly inflated in the middle; whorls rather convex, numerous, last contracted; aperture rather oblique, single-plaited within, margin thin.

POEY. Pfeiffer, Mon. Hel. iv. 700.
Hab. Cuba.

CYLINDRELLA.—PLATE III.

Species 22. (Mus. Brit.)

CYLINDRELLA DENTICULATA. *Cyl. testā angustā, attenuatā, elongatā, fusco strigatā, ad suturam denticulatā, versus spiram contractā, suprā medium et infrā rectiūsculo, cylindraceo; aperturā subobliquè productā.*

THE DENTICULATED CYLINDRELLA. Shell narrow, attenuated, elongated, striped with brown, denticulated at the suture, contracted towards the spire, rather straight and cylindrical above the middle and below, aperture rather obliquely produced.

PFEIFFER. Chem. p. 65.

Hab. Mexico.

The suture is denticulated with little white points.

Species 23. (Mus. Brit.)

CYLINDRELLA SHUTTLEWORTHIANA. *Cyl. testā elongatā, angustatā, cylindracea, subpellucida, pallidē fulvā; anfractibus subdistanter obliquè liratis, superioribus contractis, medianis et inferioribus subequalibus, rectiūsculis; ultimo elongato, infra subcarinato, soluto; aperturā subtrigonā, obliquè productā.*

SHUTTLEWORTH'S CYLINDRELLA. Shell elongated, narrow, cylindrical; rather pellucid, pale fulvous, whorls rather distantly obliquely ridged, the upper ones contracted, middle and lower ones rather equal, rather straight, last elongated; slightly keeled below, loosened; aperture subtrigonal, obliquely produced.

POEY. Chemnitz, p. 18.

Hab. Cuba.

Species 24. (Mus. Brit.)

CYLINDRELLA PUNCTURATA. *Cyl. testā pupaformi, brevi, suprā subrosea, infrā albida, medio inflato, versus apicem gradatim contracto; suturā articulatim punctatā; anfractibus rectiūsculis, ultimo subcontracto; aperturā magnā, subcontractā, margine rotundo.*

THE PUNCTURED CYLINDRELLA. Shell pupa-shaped, short, rather pink above, whitish below, inflated in the middle, gradually contracted towards the apex, suture marked with articulated spots; whorls rather straight, the last a little contracted; aperture large, somewhat contracted, margin rounded.

PFEIFFER. Proc. Zool. Soc., 1852.

Hab. St. Domingo.

Species 25. (Mus. Brit.)

CYLINDRELLA HUMBOLDTIANA. *Cyl. testā sinistrorsi, subcylindrica, pallidē fulvā, tenuissimè striatā; anfractibus rectiūsculis versus spiram angustatā; ultimo elongato; aperturā obliquā, columellā uniplicatā.*

HUMBOLDT'S CYLINDRELLA. Shell sinistral, subcylindrical, pale fulvous, very finely striated; whorls rather straight, narrowed towards the spire, last elongated; aperture oblique, with one plait on the columella.

PFEIFFER. Chem. p. 14, t. 2, f. 20, 24.

Helix columella, Ferr.

Hab. Cuba.

Species 26. (Mus. Brit.)

CYLINDRELLA MACROSTOMA. *Cyl. testā brevi, profundè rimata, solidā, confertè striatā, spirā sursum attenuatā, medio et infrā subventricosa; anfractibus vix convexis, ultimo infrā subattenuato, basi corinato; aperturā ovatā, labio albo, incrassato, expanso.*

THE LARGE-MOUTHED CYLINDRELLA. Shell short, deeply notched, solid, closely striated, spire attenuated above, rather ventricose above and below; whorls scarcely convex, the last a little lengthened below, keeled at the base, aperture ovate, lip white, thickened, expanded.

PFEIFFER. Chemn. p. 73.

Hab. Jamaica.





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C Y L I N D R E L L A.

PLATE IV.

Species 27. (Mus. Brit.)

CYLINDRELLA ALBO-CRENATA. *Cyl. testā brevi, subventricosā, solidū, obliquē striatā, corneo et albido variegatā; spirā medio subinflatā, versūs apicem attenuatā, anfractibus supernè ad suturam nodulis albis crenatis, ultimo angustato, subsoluto, infrae coriato; aperturā obliquē subrotundā, columellā uniplicatā.*

THE WHITE-CRENNATED CYLINDRELLA. Shell small, rather ventricose, rather solid, obliquely striated, variegated with horn-colour and white; spire a little inflated in the middle, attenuated towards the apex; whorls crenated above at the suture with white nodules, last narrow and somewhat uncoiled, keeled at the bottom; aperture obliquely somewhat rounded; columella single-plaited.

GUNDLACH. Pfeiffer, Malak. Bl. xi. 1863, p. 7.
Hab. Isl. Cuba.

Species 28. (Mus. Brit.)

CYLINDRELLA OBLIQUA. *Cyl. testā angustā, subcylindrica, fulvo alboque nebulatā, fusco-grisescenti hinc-illic strigatā, obliquē liratā, ad suturam crenulatā, anfractibus rectiūsculis angustis, penultimo et supra quinque subaequalibus, spirā versūs apicem attenuatā; aperturā perobliquē ovatā, labio externo producta.*

THE OBLIQUE CYLINDRELLA. Shell narrow, subcylindrical, clouded with brown and white, striped here and there with greyish brown, obliquely ridged, crenulated at the suture, whorls rather straight, narrow, the penultimate and five above nearly equal; spire attenuated towards the apex; aperture very obliquely ovate, outer lip produced.

PFEIFFER. Malak. Bl. xi. 1863.
Hab. Isl. of Cuba.

Species 29. (Mus. Brit.)

CYLINDRELLA PERPLICATA. *Cyl. testā subfusiformi, angustā, cornēd, anfractibus convexis plicatis apicalibus angustatis, medianis inflatis, ultimo coarctato, longè laxato, plicis anfractuum obliquis, distantibus, prominentibus, medio depressis; aperturā remotā, subrotundā, margine rotundo, columellā haud plicatā.*

THE WELL-PLAITED CYLINDRELLA. Shell rather fusiform, narrow, horny; whorls convex, plaited, the apical ones narrow, middle ones inflated, last contracted, much uncoiled, plaits of the whorls oblique, distant, prominent, depressed in the middle; aperture remote, a little rounded, margin round, columella not plaited.

FERRUSSAC. Pfeiffer, Mon. Helic. ii.

Hab. West Indies.

Species 30. (Mus. Brit.)

CYLINDRELLA PALLIDA. *Cyl. testā parcā, pallidā, fusiformi, versūs apicem attenuatā, medio inflato; anfractibus vir convexis, ultimo infra angustato, longè laxato, plicis anfractuum arcuatā, acutis subdistantibus; aperturā remotā, rotundā; columellā haud plicatā.*

THE PALE CYLINDRELLA. Shell small, pale, fusiform, attenuated towards the apex, inflated in the middle; whorls scarcely convex, the last narrow beneath, a long portion unrolled; plaits of the whorls curved, sharp, rather distant; aperture remote, rounded, columella not plaited.

GULDING. Bland in Adams's Contributions to Conchology.

Brachypsys costatus, Gray.

Cylindrella costulosa, Adams.

Hab. Porto Rico, Isl. St. Thomas.

Species 31. (Mus. Brit.)

CYLINDRELLA PRUINOSA. *Cyl. testā pallidē purpureā, elongatā, angustatā, suprā medium paulò inflatā, anfractibus distanter fusco strigatis, plicis eleganter arcuatā, tenuibus numerosis lyratis, ultimo elongato, paulò obliquē soluto; aperturā obliquā, ovatā, columellā uniplicatā.*

THE PLUM-COLOURED CYLINDRELLA. Shell pale purple, elongated, narrow, a little inflated above the middle, whorls distantly striped with brown, ridged with elegantly curved, thin, numerous plaits; the last elongated, a little obliquely loosened; aperture oblique, oval.

MORELET. In Chemnitz, p. 39.

Hab. Isl. of Pines, near Cuba.

CYLINDRELLA.—PLATE IV.

Species 32. (Mus. Brit.)

CYLINDRELLA IRRORATA. *Cyl. testā cylindrica, angustā, rectā, elongatā, strigis undulatis parvis, interruptis variegatā, anfractibus rectis, altis, versūs apicem contractis; aperturā magnā, auriformi, obliquā, labio externo anticē producto, supernē depresso; columellā uniplatā.*

THE SPRINKLED CYLINDRELLA. Shell cylindrical, narrow, straight, elongated, variegated with undulating, small, interrupted stripes; whorls straight, elevated, contracted towards the apex; aperture large, auriform, oblique, outer lip produced anteriorly, depressed above; columella with one plait.

GUNDLACH. Chem. p. 64.

Hab. Cuba.

Species 33. (Mus. Brit.)

CYLINDRELLA ELONGATA. *Cyl. testā sinistrā, albā, tenuiter striatā, gracile, fusiformi; anfractibus 14, concrecis, altis, versūs apicem contractis, infrah medium inflatis, ultimo brevi, infrah validē carinato; aperturā magnā, ovatā, infrah subacuminatā, labio externo expanso, infrah vix plicatā.*

THE ELONGATED CYLINDRELLA. Shell sinistral, white, finely striated, slender, fusiform; whorls fourteen, convex, elevated, contracted towards the apex; inflated towards the middle, the last short, with a strong keel below; aperture large, oval, rather acuminate below, inner lip expanded, with a very slight plait below.

CHEMNITZ. Conch. Cab. p. 58.

Helix Chemnitziiana, Férrussac.

Pupa gracilis, Sowerby.

Cylindrella Cumingii, Adams.

Hab. Jamaica.

Species 34. (Mus. Brit.)

CYLINDRELLA FASTIGIATA. *Cyl. testā breviter rotundatā, subulatā, solidulatā, subdistanter validē costatā, griseo-albidā; inter costas purpureo; spirā gracile, longē productā, anfractibus brevibus, numerosus, rotundis, ultimo infrah raddidē compresso, carinato, infrah carinam striato, breviter soluto; aperturā subtrigonā, lateraliter breviter productā, columellā vix plicatā.*

THE BOUND CYLINDRELLA. Shell shortly notched, subulate, rather solid, rather distantly strongly ribbed, greyish white, purple between the ribs; spire slender, much produced, whorls short, numerous, rounded; last much compressed beneath, keeled, striated below the keel, shortly uncoiled; aperture subtrigonal, laterally shortly produced; columella very slightly plaited.

GUNDLACH. MS. Pfeiffer in Malak. Bl. viii. 1860, p. 20.

Hab. Baracoa, Cuba.

Species 35. (Mus. Brit.)

CYLINDRELLA GOSSEL. *Cyl. testā pallidē fulva; tenuiter acutē striatā, subpyramidalatā, versūs apicem gradatim attenuatā, infrah medium vix inflata; anfractibus rectiusculis, ultimo infrah carinato, subcontracto, infrah carinam subexcavato; aperturā magnā, ovatā, columellā plicatā.*

GOSSE'S CYLINDRELLA. Shell pale fulvous; finely acutely striated, subpyramidal, gradually attenuated towards the apex, very little inflated below the middle; whorls rather straight, the last keeled below, slightly contracted, somewhat excavated below the keel; aperture large, ovate, columella plaited.

PFEIFFER. Chem. p. 70.

Hab. Jamaica.

Species 36. (Mus. Brit.)

CYLINDRELLA ELEGANS. *Cyl. testā subfusiformi, rubro-fulva, laevi, medio subinflatā; anfractibus brevibus, paulatō concrecis, ultimo obliquē soluto, declivi; aperturā obliquē ovatā, margine incrassato, expanso, columellā intars leviter plicatā.*

THE ELEGANT CYLINDRELLA. Shell subfusiform, reddish brown, smooth, slightly inflated in the middle, whorls short, a little convex, the last obliquely uncoiled, sloped downwards; aperture obliquely ovate, margin thickened, expanded; columella very slightly plaited within.

PFEIFFER. Chem. p. 23.

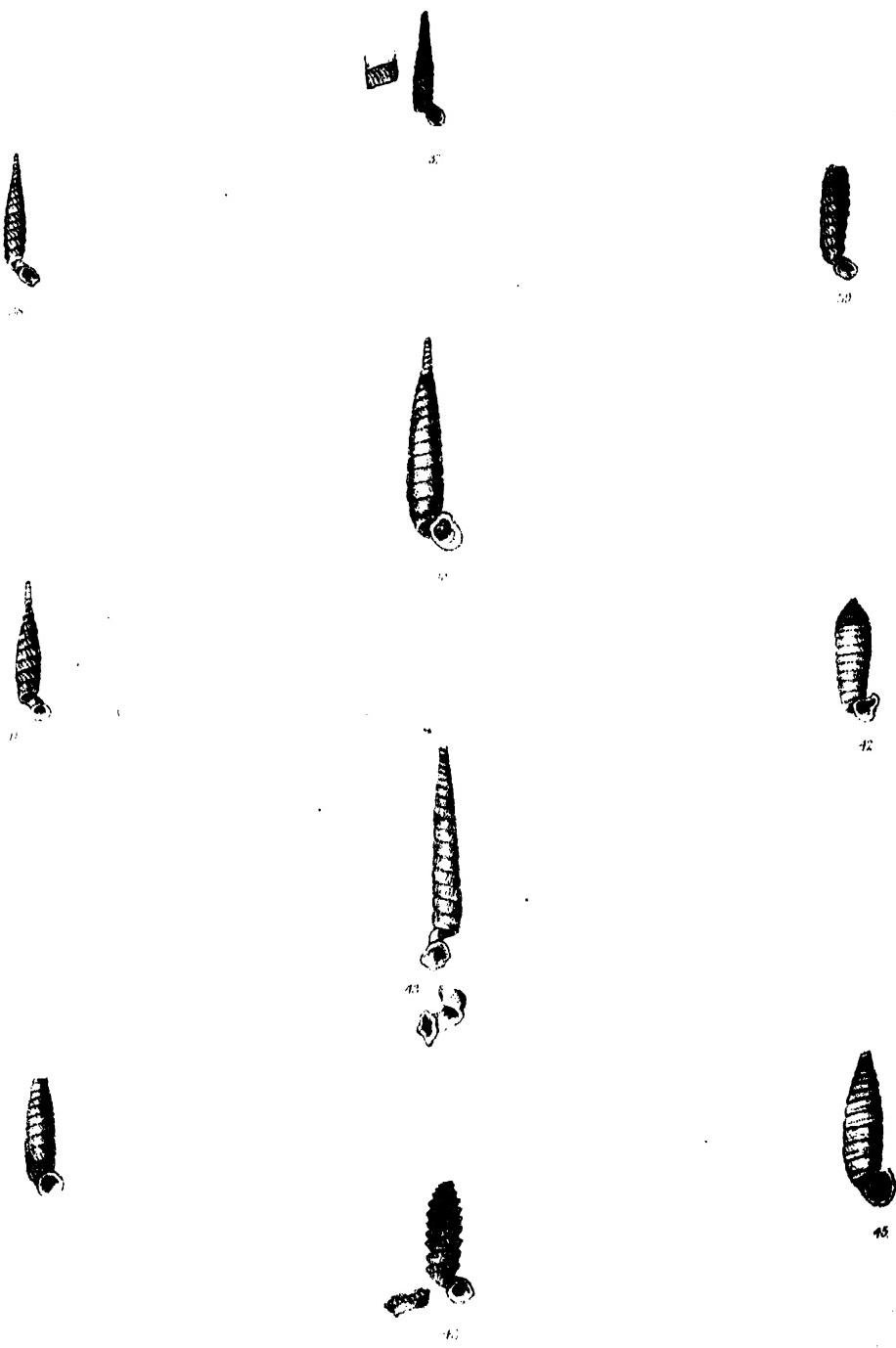
Pupa obtorta, Menke.

Pupa lituus, Gould.

Pupa Auberiana, Orbigny.

Cylindrella nobilis, Steutz.

Hab. Western part of Cuba.



C Y L I N D R E L L A.

PLATE V.

Species 37. (Mus. Brit.)

CYLINDRELLA HANLEYANA. *Cyl. testā parvā, tenui, fusca, subpyramidalē, angustatā, medio vix inflatā, versus apicem contractā; anfractibus angustis, numerosis, rectiūsculis, liris tenuibus, arcuatis sculptis; ultimo convexiūsculo, infra acutē carinato, versus aperturam longē soluto; aperturā remotā, subquadratā, declivi.*

HANLEY'S CYLINDRELLA. Shell small, thin, brown, rather pyramidal, narrow, scarcely inflated in the middle, contracted towards the apex; whorls narrow, numerous, rather straight, sculptured with fine curved ridges; the last rather convex, sharply keeled below, much uncoiled; aperture remote, rather square, sloped downwards.

PFEIFFER. Chemnitz, p. 42, Monog. iv. 152.

Hab. Venezuela, New Grenada.

A neatly sculptured little shell.

Species 38. (Mus. Brit.)

CYLINDRELLA CHORDATA. *Cyl. testā parvā, albā, tenui, subfusiformi, angustā, medio inflato; anfractibus 14, liris obliquè subarcuatā distantibus validis sculptis, ultimo longē soluto, infra validē carinato, versus aperturam declivi; aperturā anticē biangulata, supernē recta.*

THE CORDED CYLINDRELLA. Shell small, white, thin, rather fusiform, narrow, inflated in the middle; whorls fourteen, sculptured with obliquely rather arched, distant, strong ridges; the last much uncoiled, sloped downwards towards the aperture; aperture anteriorly biangular, straight above.

PFEIFFER. Chem. p. 48, Monog. 1866, No. 202.

Hab. Isl. St. Croix.

An exquisitely beautiful little white species.

Species 39. (Mus. Brit.)

CYLINDRELLA CRISPULA. *Cyl. testā pupaformi, fusca, regulariter liratā, supra medium inflatā, infra inde ad ultimum anfractum gradatim attenuatā; ultimo anfractu parvā, paulo soluto; aperturā obliquè oblongā, quadrangulatā.*

THE LITTLE CRISP CYLINDRELLA. Shell fusiform, brown, regularly ridged, inflated above the middle; thence gradually attenuated towards the last whorl; last whorl small, slightly uncoiled; aperture obliquely oblong, with four angles.

PFEIFFER. Monograph ii. 377.

Hab. Cuba.

Species 40. (Mus. Brit.)

CYLINDRELLA SALLEANA. *Cyl. testā elongatā, subpyramidalē, fusco-cornēa, tenuiter obliquè striatā; anfractibus angustis 18, quarum 6 apicalibus albīs, coarctatis, medianis convexiūsculis, alteris versus aperturam vix angustatis; ultimo contracto, subsoluto, infra carinato; aperturā productā, magnā, labio expanso, infra biangulato.*

SALLE'S CYLINDRELLA. Shell elongated, subpyramidal, horny-brown; finely obliquely striated; whorls narrow, eighteen, of which the six apical are white and narrowed, rather convex, the middle ones a little convex, the others slightly narrowed towards the aperture; aperture produced, large, with expanded lip, biangular below.

PFEIFFER. Chem. p. 38.

Hab. Haiti.

Species 41. (Mus. Brit.)

CYLINDRELLA TRINITARIA. *Cyl. testā succineo-cornēa, tenui, gracili, subdiaphanā, medio subinflatā, supernē attenuatā; anfractibus, angustis, convexis, tenuiter liratis; ultimo basi acutē carinato, infū carinam concavo, anticē longē soluto, obliquè deflexo; aperturā remotā obliquè ovatā, anticē biangulatā.*

THE TRINITY ISLAND CYLINDRELLA. Shell amber-horn, thin, slender, rather diaphanous, slightly inflated in the middle, attenuated above, whorls narrow, convex, finely ridged; the last sharply keeled at the base, concave below the keel, anteriorly much uncoiled, obliquely bent downwards.

PFEIFFER. In Malak. Bl. vii. 1860.

Hab. Trinity Island.

CYLINDRELLA.—PLATE V.

Species 42. (Mus. Brit.)

CYLINDRELLA MICROSTOMA. *Cyl. testā subperforatā, pupaformi, cretaceū; suprā medium inflatā, indē versus ultimum anfractum gradatim attenuatā; anfractibus angustis, numerosis, ultimo contracto, infrd excavato; aperturā parvā, verticali, subtriangulā.*

THE SMALL-MOUTHED CYLINDRELLA. Shell slightly perforated, pupa-shaped, chalky; inflated above the middle, thence gradually attenuated towards the last whorl; whorls narrow, numerous, the last contracted, excavated below; aperture small, vertical, subtriangular.

PFEIFFER. Proc. Zool. Soc. 1861, p. 27.

Hab. —?

A curious little pupaform shell, which has the greatest inflation above the middle of its length.

Species 43. (Mus. Brit.)

CYLINDRELLA AGNESIANA. *Cyl. testā elongatā, cylindrica, angustā, albida, tenuiter striatā; anfractibus 18, sinistrorsis, concexiusculis; ultimo recto, infrd carinato, infrd carinam excavato, versus aperturam longè soluto, bicarinato, valde deflexo, aperturā remotā, obliquè subquadratā, margine interno rotundo, labio externo biangulato.*

THE AGNESIAN CYLINDRELLA. Shell elongated, cylindrical, narrow, whitish, finely striated; whorls eighteen, sinistral, rather convex; the last straight, keeled below, excavated below the keel, uncoiled some length towards the aperture, much bent downwards; aperture remote, obliquely subquadrate, inner margin round, outer lip bangular.

ADAMS, C. B. Chem. p. 38.

Hab. Jamaica.

A graceful white shell.

Species 44. (Mus. Brit.)

CYLINDRELLA MONTANA. *Cyl. testā brevi, rectiuscula, rosea, tenuiter striatā; ultimo anfractu angustato,*

rotundato, lateraliter soluto; aperturā subrotundā, subremota, margine crassiusculo, rotundo.

THE MOUNTAIN CYLINDRELLA. Shell short, rather straight, pink, finely striated; last whorl narrow, rounded, laterally uncoiled; aperture rather round, rather distant, margin rather thick, round.

C. B. ADAMS. Chem. p. 29.

Cylindrella rosea, var., Pfeiffer.

Hab. Jamaica.

Species 45. (Mus. Brit.)

CYLINDRELLA TERES. *Cyl. testā crassiūscula, lārigatā, subpyramidalis, albā, supernè fuscā, attenuatā, anfractibus convexiusculis, ultimo paulò angustato, infrd subcarinato, infrd carinam excavato; aperturā proximā magnā, subrotundā; columella supernè subcallosa.*

THE TAPER CYLINDRELLA. Shell rather thick, smooth, rather pyramidal, white; brown above, attenuated; whorls rather convex, the last a little narrowed, slightly keeled beneath, hollowed beneath the keel; aperture approximate, large, rather rounded; columella with a slight callosity above.

MENKE. (Holospira) Chem. p. 56.

Hab. Cuba.

Species 46. (Mus. Brit.)

CYLINDRELLA SEMINUDA. *Cyl. testā parvā, gradatit, pupaformi; anfractibus scalariformibus supernè angulatis; ad angulum prominenti noduloso-squamatis; ultimo infrd angustato, lateraliter longè soluto; aperturā remotā, latere columellarī rotundā, latere externo angulatim acuminato.*

THE HALF-NUDE CYLINDRELLA. Shell small, pupa-shaped; whorls angular above, prominently nodosely squamose at the angle; the last narrowed below, laterally much uncoiled; aperture remote, rounded on the columellar side, angularly acuminate at the inner side.

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C Y L I N D R E L L A.

PLATE VI.

Species 47. (Fig. *a*, *b*, Mus. Sowerby.)

CYLINDRELLA ELLIOTTI. *Cyl. testā angustissimē cylindracea, purpureo-fusca, tubulis albis angulatis supra medium anfractuum prominentibus continua ornata; anfractibus numerosis, angustis; ultimo laterali obliquè soluto; aperturā remotā, parvā, subrotundā.*

ELLIOT'S CYLINDRELLA. Shell very narrowly cylindrical, purple-brown, ornamented with white angular tubes, prominent above the middle of the whorls; whorls numerous, narrow; last laterally obliquely uncoiled; aperture remote, small, rather rotund.

POEY. Mem. Cuba.

Hab. Cuba.

The tubes or hollow varices continued from whorl to whorl up the spire of this shell make it a remarkably interesting species.

Species 48. (Mus. Sowerby.)

CYLINDRELLA PILOCERI. *Cyl. testā subcaeruleo-alba, tenuiter lirata, pupaeformi, medio et infra recta, supra medium inflata, indè versus apicem contracta, anfractibus numerosis, angustis, ultimo parvo, infra angulata, infra angulum laevigata, medio rimata; aperturā proxima, majuscula, superne subquadrata.*

PILOCERE'S CYLINDRELLA. Shell bluish-white, finely ridged, pupa-shaped, straight at the middle and below; inflated above the middle, thence contracted towards the apex; whorls numerous, narrow; the last small, angular below, smooth below the angle, notched in the middle; aperture near, rather large, rather square above.

PFEIFFER. Chem. p. 64, Mon. ii. 382.

Hab. Mexico.

Species 49. (Mus. Sowerby.)

CYLINDRELLA ARCUATA. *Cyl. testā brevi, ventricosa, liris tenuibus, subdistantibus, eleganter arcuatis*

ornatā suprī medium inflata; anfractibus 8, rix convexit; suturā profundè excavata; ultimo anfractu angusto, crenulatim carinato, infra carinam concavo, medio rimata; aperturā subquadrata, margine expanso.

THE ARCHED CYLINDRELLA. Shell short, ventricose, ornamented with thin, rather distant elegantly curved ridges; inflated above the middle; whorls eight, scarcely convex, with deeply excavated suture; last whorl narrow, crenulated, keeled, concave below the keel, notched in the middle; aperture rather square, with expanded margin.

WEINLAND AND MARTENS. Malak. Bl. vi. 1859.

Hab. Haiti.

Species 50. (Mus. Sowerby.)

CYLINDRELLA SAUVALLIANA. *Cyl. testā levigata, fuscocornuta, angustè cylindrica, propè apicem pyramidata; anfractibus altis, infra linea rubra angulata; aperturā proxima, magnā, marginē tenui, expanso.*

SAUVALLI'S CYLINDRELLA. Shell smooth, horny-brown, narrowly cylindrical, pyramidal near the apex; whorls elevated, belted below with a red line; aperture near, large, margin thin, expanded.

GUNDLACH. Chem. p. 64, Pfss. Monog. iv. 710.

Hab. Cuba.

A smooth elevated species with a pretty red line at the bottom of the whorls partly hidden by the suture.

Species 51. (Mus. Sowerby.)

CYLINDRELLA WALPOLEI. *Cyl. testā magna, epidermide olivaceo-fusco induita, cylindraceo-subpyramidata, tenuiter obliquè striata, anfractibus altis paulo convexis; ultimo declivi, versus axem angustata, post aperturam profundè rimata; aperturā paulo laxata, perpendiculariter ovalis, columella uniplacata.*

WALPOLE'S CYLINDRELLA. Shell large, covered with an olive-brown epidermis, cylindrically subpyrami-

CYLINDRELLA.—PLATE VI.

dal, finely obliquely striated; whorls elevated, a little convex; last sloped, narrowed towards the axis, deeply notched behind the aperture; aperture a little uncoiled, perpendicularly ovate; columella with a plait.

SOWERBY.

Hab. — ?

Species 52. (Mus. Sowerby.)

CYLINDRELLA BROOKESIANA. *Cyl. fusiformi, tenui, gracili, corniculata, obliquè tenuiter striatâ; anfractibus convexiusculis, ultimo longissimè soluto, carinato, flexuoso, subspiraliter descendenti; aperturâ longè remotâ, subcirculari, margine expanso.*

THE BROOKESIAN CYLINDRELLA. Shell fusiform, thin, slender, horny, obliquely finely striated; whorls rather convex, the last uncoiled a great length, keeled, flexuous, rather spirally descending; aperture very remote, rather rounded, with expanded margin.

GUNDLACH. MS. Pfeiffer in Malak. Bl. vi. 1859.

Hab. Monte Libano, Isl. of Cuba.

Species 53. (Mus. Sowerby.)

CYLINDRELLA NOBILIOR. *Cyl. testâ cylindricâ, tenuiter striatâ, corneo-subroseâ; anfractibus vix convexis,*

supernè ad suturam rubro tenuiatis; anfractu ultimo brevi, infra rimato, breviter soluto; aperturâ productâ, fulvâ, ad marginem subexpandâ, columellâ internâ latâ, subpliata.

THE NOBLER CYLINDRELLA. Shell cylindrical, finely striated, horny-pinkish; whorls scarcely convex, banded with pink above at the suture; last whorl short, notched below, shortly uncoiled; aperture produced, fulvous, a little expanded at the margin, columella broad within, with a slight plait.

ADAMS. Chem. p. 9.

Cylindrella Binneyana, Pfeiffer.

Hab. Jamaica.

Species 54. (Mus. Sowerby.)

CYLINDRELLA MEGACHEILA. *Cyl. testâ roseo-corniculata, ventricosa, tenuissimè striatâ; anfractibus brevibus, supernè ad suturam rubro tenuiatis, ultimo profundè rimato; aperturâ annexâ, magnâ, supernè subquadratâ; margine rotundo, expanso.*

THE LARGE-THROATED CYLINDRELLA. Shell horny-rose, cylindrical, ventricose, very finely striated; whorl short, with a red band above at the suture; last whorl deeply notched; aperture annexed, large, rather square above, margin rounded, expanded.

CHITTY. Shells of Jamaica.

Hab. Jamaica.



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C Y L I N D R E L L A.

PLATE VII.

Species 55. (Mus. Brit.)

CYLINDRELLA STRIATELLA. *Cyl. testā rimatā, pyramidato-cylindraceā, solidula, tenuissimè obliquè striatā, lèvi, cornēti, medio rubescēti, usque ad medium subcylindricā, deinde ad apicem lentē attenuatā, anfractibus breviūsculis; rectiūsculis; aperturā subrotundā, intūs subroseā; columellā vix plicatā.*

THE FINELY STRIATED CYLINDRELLA. Shell notched, pyramidal, cylindrical, rather solid, very finely obliquely striated, smooth, horny, a little red in the middle; cylindrical up to the middle, afterwards slowly attenuated; whorls rather short, rather straight; aperture rather rounded, a little rosy within; columella scarcely plaited.

WRIGHT, MS. Pfeiffer, Malak. Bl. xi. p. 246.
Hab. The western part of the Isl. of Cuba.

Species 56. (Mus. Sowerby.)

CYLINDRELLA LAVALLIANA. *Cyl. testā fulvo-cornēti, tenui, semipellucidā, angustā, elongatā, cylindrica, rimatā; anfractibus brevibus, numerosis, convexiūsculis; ultimo rotundo, contracto, soluto; aperturā subrematā, columellā rectiūscula.*

LAVALLI'S CYLINDRELLA. Shell fulvous horn, thin, semi-pellucid, narrow, elongated, cylindrical, notched; whorls short, numerous, rather convex; the last rounded, contracted, uncoiled; aperture rather distant, columella rather straight.

ORBIGNY. Shells of the Isl. of Cuba.
Hab. Cuba.

The whorls of this cylindrical little species are peculiarly short.

Species 57. (Mus. Sowerby.)

CYLINDRELLA POLYGYRA. *Cyl. testā parvā, fusca, elongatā, angustissimā, versūs apicem fusca, gradatim attenuatā, medio paulò inflato, anfractibus 20, brevibus, liris arcuatī ornatis, ultimo rimato, longè soluto; aperturā subtriangularē remotā, marginē supernē recto.*

THE MANY-WHORLED CYLINDRELLA. Shell small, elongated, very narrow, gradually attenuated towards the apex, a little inflated in the middle; whorls twenty, short, ornamented with curved ridges; last notched, with a long portion uncoiled; aperture rather trigonal, remote, margin straight above.

PFEIFFER. Monog. iv. p. 206.

Hab. Cordova, Mexico.

Species 58. (Mus. Sowerby.)

CYLINDRELLA LATA. *Cyl. testā rimatā, cylindrica, ventricosā, corneo-rubescēti, tenuiter obliquè liratā; anfractibus breviūsculis, teniā rubrā supernè ad suturam cinctis, ultimo soluto, infrah carinatō; aperturā disjunctā, productā, fulvā, columellā uniplicatā, margine rotundè reflexo, expanso.*

THE BROAD CYLINDRELLA. Shell notched, cylindrical, ventricose, reddish-horn, finely obliquely ridged; whorls rather short, belted above at the suture with a red band, last uncoiled, keeled below; aperture disconnected, produced, fulvous, columella single-plaited, margin roundly reflected, expanded.

A. B. ADAMS. Chemn. 22. Pfrr. Monog. iii. 567.

Hab. Jamaica.

Resembling *Cylindrella Binneyana* and others in general appearance, but with the mouth detached and produced.

Species 59. (Mus. Brit.)

CYLINDRELLA MORELETI. *Cyl. testā elongato-cylindrica, angustā, vix rimatā, corneo-rubescēti, variegatā, tenuiter undatim rugatā, anfractibus subelevatis, convexiūsculis, infrah lined rubrā teniatis, ad suturam crenatis; aperturā obliquā; columellā uniplicatā.*

MORELET'S CYLINDRELLA. Shell elongate-cylindrical, narrow, scarcely notched, reddish-horn, pale-variegated, finely wavy wrinkled, whorls rather raised, rather narrow, banded at the lower part

CYLINDRELLA.—PLATE VII.

with a red line, crenated at the suture; aperture oblique, columella single-plaited.

PFEIFFER. Chemn. p. 16. Monograph iii. 566.

Hab. —?

Species 60. (Mus. Brit.)

CYLINDRELLA VIOLENCEA. *Cyl. testā solidūsculū, subcylindricā, angustā, purpureo-variegatā, filo-liratā, infra rimatā, anfractibus connexis, distinctis; ultimo obliquè soluto; aperturā semicirculari, margine interno rectiūsculo; columellā leriter uniplatā.*

THE VIOLET CYLINDRELLA. Shell rather solid, rather cylindrical, narrow, variegated with purple, with thread-like ridges; notched below, whorls convex, distinct; the last obliquely uncoiled; aperture semicircular; inner margin nearly straight; columella with a slight plait.

WRIGHT. MS. Pfeiffer, Malak. Bl. xi. 1864, p. 128.

Hab. West Cuba.

Species 61. (Mus. Brit.)

CYLINDRELLA MEXICANA. *Cyl. testā magnā, cylindrico-subpyramidalē, straminā, ventricosā, tenuiter striatā; anfractibus rectiūsculis, paulò convexis, ultimo inflo subcarinato, infra carinam lēvigato; aperturā subauriformi, infra cuneatā, columellā tortuā, plicatā.*

THE MEXICAN CYLINDRELLA. Shell large, cylindrical, subpyramidal, straw-coloured, ventricose, finely ribbed; whorls rather straight, a little convex, the last keeled below, smooth below the keel; aperture somewhat auriform, cuneate below, columella, tortuous, plicated.

CUNNING. MS. Pfeiffer. Proc. Zool. Soc. 1860.

Hab. Mexico.



Species 62. (Mus. Brit.)

CYLINDRELLA ACUS. *Cyl. testā cornēd, semipellucida, angustē cylindrica, versus apicem pyramidalē, lēvigata; anfractibus superioribus lēvissimis inferiori-*

bus filo-liratis; ultimo infra validē carinato, infra carinam rīmato, excavato; aperturā subquadratā infra labium externum cuneato, columellā leviter uni-

THE SPEAR CYLINDRELLA. Shell horny, semipellucid, narrowly cylindrical, pyramidal towards the apex, smooth, upper whorls very smooth, lower with thread-like ridges; last strongly keeled below, notched below the keel, excavated; aperture rather square, outer lip cuneate below, columella with a slight plait.

PFEIFFER. Monograph ii. No. 383.

Hab. Cuba.

Species 63. (Mus. Brit.)

CYLINDRELLA AUGUSTÆ. *Cyl. testā cylindrica, angustā, subrosea, tenuissimè striatā, anfractibus rectiūsculis, infra angustē tenuiatis; aperturā connexā, margine albido, rotundo.*

AUGUSTA'S CYLINDRELLA. Shell cylindrical, narrow, rather rose-coloured, very finely striated, whorls rather narrow, with a narrow band below: aperture connected, margin white, rounded.

C. B. ADAMS. Pfrr. Monog. iii.

Hab. Jamaica.

Species 64. (Mus. Brit.)

CYLINDRELLA INTUSMALLEATA. *Cyl. testā subfusiformē, albā, angustā, elongatā, medio paulò ventricosā; anfractibus brevibus, distanter validē costatis, costis subdistantibus, medio anfractuum malleatis; ultimo anfractu infra carinato, subrimato, obliquè soluto; aperturā remotā, obliquè ovatā, margine rotunda.*

THE HAMMERED CYLINDRELLA. Shell somewhat fusiform, white, elongated, a little ventricose in the middle; whorls short, distantly strongly ribbed; ribs rather distant, flattened in the middle of the whorls; last whorl keeled below, with a slight notch; aperture removed, obliquely ovate with rounded margin.

GUNDLACHER—Pfeiffer, Monog. iv. 705.

Hab. Cuba.



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66b



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73.



72.



74.

C Y L I N D R E L L A.

PLATE VIII.

Species 65. (Mus. Sowerby.)

CYLINDRELLA TUMIDIORA. *Cyl. testā tenui, fulvā, fusco-corneo variegatā, subpyramidalē; anfractibus brevibus, convexiūsculis ad suturam leviter crenatis, infrā angustissimē rubro tæniatis, ultimo rimato; aperturā annexa, anticē productā, expansā, suprad medium subcontractā.*

THE MORE TUMID CYLINDRELLA. Shell thin, fulvous; variegated with horny brown, rather pyramidal; whorls short, rather convex, slightly crenated at the suture, with a very narrow red band below, the last notched; aperture connected, anteriorly produced, expanded, a little contracted above the middle.

SOWERBY.

Hab. Cuba.

The whorls are much shorter and more convex than in *Cylindrella irrorata*.

Species 66. (Fig. a, b, Mus. Brit.)

CYLINDRELLA GARCIANA. *Cyl. testā brevi, cylindricā, minutiē liratā, fulvā vel albā; anfractibus rectiūsculis, medianis vix inflatis, ultimo infrā validē carinato, infrā carinam excavato, vix rimato, brevissimē soluto; aperturā magnā, ovatā, subdisjunctā, columellā simplici.*

GARCIA'S CYLINDRELLA. Shell short, cylindrical, minutely ridged, fawn-coloured or white; whorls rather straight, the middle ones very little inflated in the middle, the last strongly keeled, hollowed below the keel, scarcely notched, very shortly uncoiled; aperture large, oval, a little disjoined, columella simple.

WRIGHT. MS. Pfr. Mal. Bl. xiii.

Hab. Isl. of Cuba.

Species 67. (Mus. Brit.)

CYLINDRELLA CARINATA. *Cyl. testā angustā, elongatā, subcylindricā, corneo-rubescēti, levigatā; anfractibus elevatis, rectiūsculis, tenuiter striatis, ultimo breviter soluto, infrā subcontracto, validē carinato, infrā carinam excavato, rimato; aperturā oblongā, ovatā, productā.*

THE KEELED CYLINDRELLA. Shell narrow, elongated, subcylindrical, reddish-horn, smooth; whorls elevated, rather straight, finely striated, the last shortly uncoiled, a little contracted below, with a strong keel, excavated, notched; aperture obliquely ovate, produced.

PFEIFFER. Monographia Heliceorum, iii. p. 574.

Hab. —?

The last whorl is rather rounded, then contracted and terminated by a very strong keel, between which and the inner edge of the aperture there is a narrow excavation.

Species 68. (Mus. Brit.)

CYLINDRELLA CYLINDRUS. *Cyl. testā angustatā, elongatā, rubrā, suprad medium lentissimē attenuatā; anfractibus elevatis, levibus, ad latera rectissimis, ultimo convexiūsculo, infrā carinam excavato; aperturā perpendiculariter ovalē.*

THE CYLINDER CYLINDRELLA. Shell narrow, elongated, red, very slowly attenuated; whorls raised, smooth, very straight, the last rather convex, keeled below, excavated under the keel, aperture perpendicularly oval.

CHEMNITZ. New Ed. p. 6. Pfeiffer Monog. ii. p. 6.

Pupa cylindra, purpurea, Gray.

Pupa rubella, rosea, C. B. Adams.

Cylindrella procerā, C. B. Adams.

Hab. Jamaica.

A narrow shell with straighter whorls than *Cylindrella carinata*, with the keel on the last whorl less prominent.

Species 69. (Mus. Brit.)

CYLINDRELLA DUNKERIANA. *Cyl. testā angustissimā, elongatā, corneo-rubescēti, levigatā, medio vix inflatā; anfractibus elevatis, ad latera rectiūsculis, ultimo elevatissimā, ad latera concavo, subcontracto, infrā angulato; aperturā connexā, obliquē ovalē, anticē subproductā, subacuminatā.*

CYLINDRELLA.—PLATE VIII.

DUNKER'S CYLINDRELLA. Shell very narrow, elongated, reddish-horn, smooth, very little inflated in the middle; whorls elevated, rather straight at the sides, the last very elevated, concave at the sides, a little contracted, angular below; aperture connected, obliquely ovate, anteriorly a little produced and acuminate.

DUNKER. Chemn. p. 67.

Hab. Jamaica.

the middle; a little contracted below; whorls short, rather convex sculptured with distinct prominent ribs interrupted in the middle of the whorls, last whorl small, notched, with a large part obliquely uncoiled; suture deep, aperture obliquely ovate, small, with expanded margin.

GUNDLACH. Chemn. p. 29, Pfeiffer. Mon. iv. 705.

Hab. Cuba.

The rib is nearly, if not quite obliterated in the middle of each whorl.

Species 70. (Mus. Brit.)

CYLINDRELLA FABREANA. *Cyl. testa alba, diaphana, subpupaeformi, medio subinflata, anfractibus convexiusculis, liris tenuibus oblique arcuatis, distantibus, ornatis, ultimo elevate, subcontracto, subrotundo, rimato, breviter soluto, tenuiter unicarinato; apertura subremota, obliquè producto, margine ininde expanso, columellâ obliquè uniplicata.*

FABREA'S CYLINDRELLA. Shell white, transparent, rather pupa-shaped, a little inflated in the middle; whorls convex, ornamented with thin, obliquely curved, distant ridges; last elevated, a little contracted, a little rounded, notched, shortly uncoiled, with a thin keel; aperture a little removed, obliquely produced, margin expanded all round, columella with an oblique fold.

POEY. MS. Pfeiffer, Malak. Bl. vi. 1859.

Hab. "Leborucal de San Antonio." Cuba.

Species 72. (Mus. Brit.)

CYLINDRELLA GONIOSTOMA. *Cyl. testa, pupaeformi, elongata, cornuta, tenuiter, distanter et oblique filostriatâ; suprad medium paulò inflata; apice obtuso, infra subattenuata; anfractibus convexiusculis, brevibus, ultimo rimato, soluto; apertura subtriangularis, superne biangulata; margine angusto, rotundo.*

THE ANGLE-MOUTHED CYLINDRELLA. Shell pupa-shaped, long, horny, with fine, distant, oblique thread-like striæ, a little inflated above the middle; apex obtuse, a little attenuated beneath; whorls a little convex, short, the last notched, uncoiled; aperture rather trigonal, with two angles above; margin narrow, rounded.

PFEIFFER. Chemn. p. 63. Monog. iv. p. 740.

Species 71. (Mus. Brit.)

* CYLINDRELLA INTERRUPTA. *Cyl. testa fusa, cylindrica, subpupaeformi, suprad medianâ subinflatâ, infra paulò contractâ, anfractibus brevibus, convexiusculis, costis distantibus prominentibus, media anfractuum interruptis sculptis; ultimo anfractu parvo, rimato, obliquè longè soluto; suturâ profundâ; apertura obliquè ovata, parva, margine subexpanso.*

THE INTERRUPTED CYLINDRELLA. Shell brown, cylindrical, slightly pupa-shaped, a little inflated above

Species 73. (Mus. Brit.)

CYLINDRELLA OBESA. *Cyl. testa brevi, ventricosa, solidiusculâ, rubro-succinata, tenuiter striatâ, anfractibus 5, convexiusculis; apertura magna, rotunda, connectâ margine crasso, rotunda.*

THE STOUT CYLINDRELLA. Shell short, ventricose, rather solid, reddish-amber, finely striated, whorls five, rather convex; aperture large, rounded, connected with thick, rounded margin.

WEINLAND AND MARTENS. Malak. Bl. vi. 1859, p. 1.
Hab. Haiti.



74.



75.



76.



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82.



83.

CYLINDRELLA.

PLATE IX.

Species 74. (Mus. Sowerby.)

CYLINDRELLA SCALARINA. *Cyl. testū pallidē fulvā, pupariformi; anfractibus 12, costis obliquis, crassis, approximatis munitis, superioribus parris, medianis latis, inflatis, inferioribus angustis; ultimo longè larato; aperturā subtransversā, margine crasso, rotundo.*

THE SCALARIFORM CYLINDRELLA. Shell pale fulvous, pupa-shaped; whorls 12, provided with oblique, thick, approximate ribs, superior small, middle broad, inflated, lower narrow; last much uncoiled; aperture subtransverse, margin thick, rounded.

SHUTTLEWORTH. Pfr. Mon. VI., No. 209.

Hab. Cuba.

Species 75. (Mus. Sowerby.)

CYLINDRELLA SOLUTA. *Cyl. testū fusiformi, solidiū scđū, minūtē striatā, pallidē cornēt; anfractibus 11, convexisculis; ultimo infrā angustato, longè larato, aperturā obliquā, circulari, margine sub-expanso.*

THE UNCOILED CYLINDRELLA. Shell fusiform, rather solid, finely striated, pale horn; whorls 11, rather convex; last narrowed below, uncoiled some length, aperture oblique, circular, margin slightly expanded.

PFEIFFER. Malak. Vol. XI., 1863.

Hab. West Cuba.

Species 76. (Mus. Brit.)

CYLINDRELLA HOLLANDI. *Cyl. testū rectiūsculā, sub-cylindricā, pallidē fulvā, media anfractuum fuso fasciatā; anfractibus permanentibus decem, altiūsculis, rectilateralibus; aperturā approximatā, perpendiculiter oblongā.*

HOLLAND'S CYLINDRELLA. Shell rather straight, rather cylindrical, pale fulvous, banded with brown in the middle of the whorls; permanent whorls ten, rather high, straight-sided; aperture approximate, perpendicularly oblique.

ADAMS, C. B. Pfr. Mon. VI., p. 369.
Hab. Jamaica.

Species 77. (Mus. Sowerby.)

CYLINDRELLA TRANSPERTA. *Cyl. testū latā, subcylindricā, sulfuscā, tenuissimē striatā; anfractibus permanentibus 9–10, rectilateralibus, superioribus angustatis; ultimo subquadrato, longè rimato; aperturā transversā oblongatā; labio interno contingenti, crasso, albo.*

THE CROSS-MOUTHED CYLINDRELLA. Shell broad, sub-cylindrical, brownish, very finely striated; permanent whorls 9 or 10, straight-sided, upper narrow; last rather square, with a long notch; aperture transversely oblong; inner lip touching, thick, white.

SOWERBY.

Hab. — ?

The inner margin of the mouth touches the middle of the last whorl, across which it is extended.

Species 78. (Mus. Sowerby.)

CYLINDRELLA GRACILIS. *Cyl. testū sinistrali, albā, altissimā, elongatā, subfusiformi, tenuissimē striatā; anfractibus 18⁴, obliquis, convexis, gradatim crescentibus; ultimo subcarinato; aperturā magni, ovatā, columellā plicatā.*

THE SLENDER CYLINDRELLA. Shell sinistral, white, very high, elongated, subfusiform, very finely striated; whorls 18, oblique, convex, gradually increasing; last slightly keeled; aperture large, ovate, columella plaited.

WOOD. Pfr. Monog. VI., p. 383.

Hab. Jamaica.

Mentioned at No. 33 as a var. of *Cy. oblonga*; but it is much more elongated.

Species 79. (Mus. Sowerby.)

CYLINDRELLA MULTISPIRALIS. *Cyl. testā elongatissimā, angustā, fulvā; anfractibus 24, rectiūsculis; ultimo longè larato; aperturā distantī, subovalē.*

THE MULTISPIRAL CYLINDRELLA. Shell very long,

CYLINDRELLA.—PLATE IX.

narrow, fawn; whorls 24, rather straight; last loosened some length; aperture distant, subovate.

SOWERBY?

Hab. ——?

The writer has the name with the shell in MS., but does not find it in Pfeiffer's Monograph.

Species 80. (Mus. Sowerby.)

CYLINDRELLA TROCHÆFORMIS. *Cyl. testâ brevi, latâ, densè striatâ, roseâ, spira subconicâ; anfractibus permanentibus 7, tribus inferioribus latissimis; ultimo longè rimato; aperturâ magnâ, obliquâ, labio interno producto.*

THE TROCHÆFORM CYLINDRELLA. Shell short, broad, closely striated, pink, spire subconical; permanent whorls 7, three lower very broad; last with a long notch; aperture large, oblique, inner lip produced.

SOWERBY.

Hab. ——?

Species 81. (Mus. Sowerby.)

CYLINDRELLA ALABASTRINA. *Cyl. testâ albâ, cylindricâ, semipellucidâ, gradatim attenuatâ; anfractibus permanentibus 12, recilateralibus; ultimo infrâ angulato, longè laxato; aperturâ magnâ, subrotundâ, distanti, margine rotundo.*

THE ALABASTER CYLINDRELLA. Shell white, cylindrical, semipellucid, gradually attenuated; permanent whorls 12, straight-sided; last angular be-

low, with a long notch; aperture large, rather rounded, distant, margin rounded.

PFEIFFER. Monog. VI., p. 375.

Hab. Jamaica.

Species 82. (Mus. Sowerby.)

CYLINDRELLA CLARA. *Oyl. testâ fulvâ, lavigatâ, subfusiformi, versus apicem attenuatâ; anfractibus medio et infrâ subequalibus, concavâsculis; ultimo costulato breviter laxato, longè rimato; aperturâ obliquâ, majuscula; margine rotundo, columella lamellata.*

THE CLEAR CYLINDRELLA. Shell fulvous, smooth, subfusiform, attenuated towards the apex; whorls nearly equal at the middle and under, rather convex; last ribbed, shortly uncoiled, with a long notch; aperture oblique, rather large; margin rounded, columella lamellated.

WRIGHT. Pfeiffer Mon. VI., p. 363.

Hab. Cuba.

Species 83.* (Mus. Sowerby.)

CYLINDRELLA VIGNALENSIS. *Cyl. testâ breviusculâ, subventricosa, carneo-cæruleâ, sursum subattenuatâ, obliquâ costellatâ; anfractibus permanentibus septem, altis; ultimo infrâ contracto; aperturâ magna, subquadrata; margine tenui.*

VIGNAL'S CYLINDRELLA. Shell rather short, rather ventricose, ashy-flesh, slightly attenuated upwards, obliquely ribbed; permanent whorls seven, raised; last contracted below; aperture large, rather square; margin thin.

WRIGHT. Pfeiffer Monog. VI., p. 367.

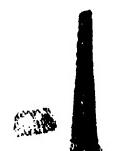
Hab. Cuba.



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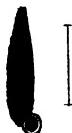
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93.

C Y L I N D R E L L A.

PLATE X.

Species 84. (Mus. Sowerby.)

CYLINDRELLA TENERIENSIS. *Cyl. testā subvariegatā, seu albā, solidūnuscūlā, conformatim arcuato-costulatā, spirā supra medium et infrā inflatā; anfractibus permanentibus 11, angustatis, ad suturam crenulatis; ultimo angustato, obliquè rimato, longè soluto; aperturā distanti, obliquè suboblongā.*

THE TENERIAN CYLINDRELLA. Shell rather variegated, or white, rather solid, closely curve-ribbed, spire inflated above the middle and below ; permanent whorls 11, narrow, crenulated at the suture ; last narrow, obliquely notched, with long part uncoiled ; aperture distant, obliquely rather oblong.

WRIGHT. Pfr. in Malak. Bl. Monog. VI., p. 387.

Hab. La Teneria, West Cuba.

Species 85. (Mus. Sowerby.)

CYLINERELLA WRIGHTII. *Cyl. testā altā, attenuatā, subfusiformi, obliquè leviter striatā; anfractibus 20, superioribus angustissimis, medianis convexisculis; ultimo elongato, infrā angustato, longè soluto; aperturā distanti, rotundā, magnā; margine crassiusculo.*

WRIGHT'S CYLINDRELLA. Shell high, attenuated, subfusiform, obliquely slightly striated ; whorls 20, upper very narrow, middle rather convex ; last elongated, narrow below, with a lengthened uncoiled portion ; aperture distant, rounded, large ; margin rather thick.

PFEIFFER. Malak. Bl. 1862, p. 132.

Hab. Cayo del Ray, Cuba.

Species 86. (Mus. Sowerby.)

CYLINDRELLA LATERALIS. *Cyl. testā elongatā, sordidè fusca; anfractibus permanentibus 14, angustis, tenuiter striatis; ultimo subepanso; infrā angulato; aperturā subtrigonā; margine tenui.*

LATERALIS'S CYLINDRELLA. Shell elongated, dull brown ; permanent whorls 14, narrow, finely striated ; last rather expanded, angular below ; aperture subtrigonal ; margin thin.

GRATELOUP (Clausilia). Pfr. Mon. III., p. 574.

Hab. Haiti.

Species 87. (Mus. Sowerby')

CYLINDRELLA ILLAMELLATA. *Cyl. testā subfusiformi, diaphanā, pallidè cornēd, obliquè striatā; anfractibus permanentibus 10, medianis et inferioribus inflatis; ultimo paulo contracto; aperturā obliquè ovatā; margine crassiusculo; columellā intus simplici.*

THE UNLAMELLATED CYLINDRELLA. Shell subfusiform, diaphanous, pale horn, obliquely striated ; permanent whorls 10, middle and lower inflated ; last a little contracted ; aperture obliquely ovate, margin rather thick ; columella simple within.

WRIGHT. Pfeiffer Mon. Vol. VI., p. 373.

Hab. La Palma, West Cuba.

Species 88. (Mus. Sowerby.)

CYLINDRELLA PERLATA. *Cyl. testā breci, cylindracea, albida, tenui, semipellucidā; anfractibus permanentibus novenīs ad decenīs rectilateralibus, suturi crenulatā; ultimo anfractu subcontracto, rimato; aperturā majuscūlā, obliquè subovatā.*

THE BROAD CYLINDRELLA. Shell short, cylindrical, whitish, thin, semipellucid ; permanent whorls nine or ten, straight-sided, suture crenulated ; last whorl subcontracted, notched ; aperture rather large, obliquely semiovate.

GUNDLACH. Pfeiffer Malak. Bl. VI., 1859.

Hab. Yateras, Cuba.

Species 89. (Mus. Sowerby.)

CYLINDRELLA PRODUCTA. *Cyl. testā subfusiformi, fuscocornēd, levigatā; anfractibus permanentibus 13, medio et infrā subequalibus, convexisculis, superioribus angustis; ultimo leviter soluto; aperturā majuscūlā, subdistanti.*

THE PRODUCED CYLINDRELLA. Shell rather fusiform, brownish horn, smooth ; permanent whorls 13,

CYLINDRELLA.—PLATE X.

middle and lower nearly equal, rather convex, upper narrow; last slightly unwound; aperture rather large, distant.

GUNDLACH. Pfeiffer Mon. Vol. VI., p. 361.

Hab. Cuba.

Species 90. (Mus. Sowerby.)

CYLINDRELLA NOBILIOR. Adams. Species 53. var.
C. Binneyana, Adams.

Species 91. (Mus. Sowerby.)

CYLINDRELLA INTERMEDIA. *Cyl. testū cylindricā, altā, angustā, fuscā, versus apicem contractā; anfractibus permanentibus undecim, striatis, rectilīculis; aperturā paulò disjunctā, magnā, obliquè ovatā; margine crasso.*

THE INTERMEDIATE CYLINDRELLA. Shell cylindrical, high, narrow, brown, contracted towards the apex; permanent whorls eleven, striated, rather straight; aperture a little disjoined, large, obliquely ovate; margin thick.

SOWERBY?

Hab. —?

The writer is obliged to adopt the name, not having the authority.

Species 92. (Mus. Sowerby.)

CYLINDRELLA BRUNNESCENS. *Cyl. testū subfusiformi, fuscā, tenuiter striatā, solidiūculā; anfractibus permanentibus 14, angustis, convexiūculis; ultimo rimato, aī aperturam leviter soluto.*

THE BROWNISH CYLINDRELLA. Shell subfusiform, brown, finely striated, rather solid; permanent whorls 14, narrow, rather convex; last notched, slightly unwound at the aperture.

GUNDLACH. Pfr. Mon. Vol. VI., p. 376.

Hab. Cuba.

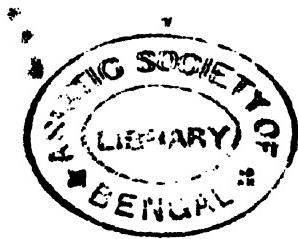
Species 93. (Mus. Sowerby.)

CYLINDRELLA INTEGRA. *Cyl. testū lāvigatā, altā, attenuatā, fulvo-cornē; anfractibus sexdecim, convexis, obliquis, ultimo soluto; aperturā majūculā, distanti; margine crasso.*

THE ENTIRE CYLINDRELLA. Shell smooth, raised, attenuated, fulvous-horny; whorls sixteen, convex, oblique; last unwound; aperture rather large, distant; margin thick.

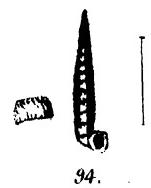
PFEIFFER. Mon. Vol. VI., p. 379.

Hab. Cuba.





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102

C Y L I N D R E L L A.

PLATE XI.

Species 94. (Mus. Sowerby.)

CYLINDRELLA RÜSEL. *Cyl. testā aculeatā, corneā, sursum attenuatā, medio et infrā rectigoniā; anfractibus superioribus septenī, angustis, inferioribus septenī subequalibus, obliquè costatis; costis ad suturam tuberculatis; anfractu apicali papilloso, ultimo infra angulato, soluto; aperturā supernè subquadratā, infrā obliquè subacuminatā.*

RÜSEL'S CYLINDRELLA. Shell aculeated, horny, attenuated above, straight-sided at the middle and under; upper whorls seven, narrow, lower seven nearly equal, obliquely ribbed; ribs tuberculated at the suture; apical whorl papillary, last angular below, unwound; aperture squared above, obliquely acuminate below.

PFEIFFER. Mon. III. p. 378.

Hab. Porto Rico.

Species 95. (Mus. Sowerby.)

CYLINDRELLA COLLARIS. *Cyl. testā fusēa, sulciformi, obliquè densè costatā; anfractibus permanentibus 15, convexis, medianis latiusculis, ultimo longè soluto; aperturā rotundatā, margine crasso, rotundo.*

THE NECKED CYLINDRELLA. Shell brown, subfusiform, obliquely closely ribbed; permanent whorls 15, convex, middle rather broad, last with a long uncoiled piece; aperture round, margin thick, round.

FERRUSSAC. Pfr. Mon. II. 375.

Cylindrella antiperversa. Pfeiffer.

Pupa truncatula. Sowerby.

Hab. Guadeloupe.

Species 96. (Mus. Sowerby.)

CYLINDRELLA HILLERI. *Cyl. testā corneā, fasciis fuscis semilunaribus variegatā, tenuiter striatā, fusiformi, gracili; anfractibus permanentibus quindecim, superioribus angustissimis, rectiusculis, medianis subangustatis; ultimo parvo, longissime soluto; aperturā rotundatā, distanti, margine subexpanso.*

HILLER'S CYLINDRELLA. Shell horny, variegated with brown semilunar bands, finely striated, fusiform, slender; permanent whorls fifteen, upper very

narrow, rather straight, middle rather inflated, last small, with very long portion unwound; aperture round, distant, margin a little expanded.

PFEIFFER. Malak. Bl. IX. 1862, p. 132.

Hab. Cuba.

Species 97. (Mus. Sowerby.)

CYLINDRELLA ANGSTIOR. *Cyl. testā subcylindrica, breviuscula, cornēa, anfractibus 19, rectilateralibus, superioribus contractis, medianis inferioribusque altis, subaequalibus, ultimo infrā rimato, angulato; aperturā magnā, margine rotundo.*

THE NARROWER CYLINDRELLA. Shell subcylindrical, rather short, horny; whorls 19, straight-sided, upper contracted, middle and lower high, nearly equal, last notched below, angular; aperture large, margin rounded,

WRIGHT. Pfeiffer. Mon. Vol. VI. p. 384.

Hab. Cayo de San Felipe, Cuba.

Species 98. (Mus. Sowerby.)

CYLINDRELLA ASPERA. *Cyl. testā fulvā, fusiformi, supernè contractā, piedio inflatā, infrā subangustatā; anfractibus quindecim, obliquè densè striatis, ultimo paulo soluto; aperturā obliquè oblonga, subdistanti, margine rotundo.*

THE ROUGH CYLINDRELLA. Shell fulvous, fusiform, contracted above, inflated in the middle, a little narrowed below; whorls 15, obliquely densely striated, last a little unwound; aperture obliquely oblong, rather distant, margin rounded.

ADAMS. Shells of Jamaica. Pfeiffer. Mon. Vol. VI. p. 359.

Hab. Jamaica.

Species 99. (Mus. Sowerby.)

CYLINDRELLA INORNATA. *Cyl. testā brevi cylindrica, perobliquè striatā; anfractibus novenis, rectilateralibus, tribus superioribus subangustatis, alteris subaequalibus, ultimo rimato; aperturā approximatā, magnā, rotundā, margine rotundo.*

THE PLAIN CYLINDRELLA. Shell short, cylindrical, very obliquely striated; whorls nine, straight-sided, three upper rather narrow, others nearly

CYLINDRELLA.—PLATE XI.

equal, last notched; aperture approximate, large, rounded, margin round.

ADAMS. Sh. of Jamaica. Pfeiffer. Mon. Vol. VI. p. 377.
Hab. Jamaica.

Species 100. (Mus. Sowerby.)

CYLINDRELLA PORRECTA. *Cyl. testâ fulvâ, gracili, fusiformi, levigatâ; anfractibus 17, superioribus sensim angustissimis, pellucidis, alteris subinflatâ, ultimo subcontracto, longè soluto; aperturâ obliquâ distanti, rotundo.*

THE UPRIGHT CYLINDRELLA. Shell fulvous, slender, fusiform, smooth, whorls 17, upper 6 very narrow, pellucid, others a little inflated, last rather contracted, unwound some length; aperture oblique, distant, round.

GOULD. Pfeiffer. Mon. Vol. VI. p. 384.

Hab. Cuba.

Species 101. (Mus. Sowerby.)

CYLINDRELLA TENELLA. *Cyl. testâ fulvâ, levigatâ, cylindrica, supernè subattenuatâ; anfractibus permanentibus duodecim, rectilateralis, lentissimè crescentibus, ultimo alto; aperturâ magnâ, approximatâ, obliquè subquadratâ.*

THE THIN LITTLE CYLINDRELLA. Shell fulvous, smooth, cylindrical, rather narrowed above; permanent whorls twelve, straight-sided, slowly increased, last high; aperture large, approximate, almost obliquely square.

ADAMS. Pfeiffer. Mon. Vol. VI. 359.

Hab. Jamaica.

Species 102. (Mus. Sowerby.)

CYLINDRELLA NOTATA. *Cyl. testâ gracillimâ, fusiformi, pellucidâ, sublevigatâ, corniculata; anfractibus 17, angustis, convexis, superioribus contractis, apicali rotundo, ultimo vix soluto; aperturâ obliquâ marginâ rotundo.*

THE MARKED CYLINDRELLA. Shell very slender, fusiform, pellucid, rather smooth, horny; whorls 17, narrow, convex, upper contracted, apical round, last hardly unwound; aperture oblique; margin round.

GUNDLACH. MS. Pfeiffer in Malak. Bl. XI. 1863, p. 10.

Hab. —— ‘Sierra de Gueira.’ Cuba.

The spiral band above the suture, spoken of in the description, and whence the species derives its name, is not visible in the specimen in our hands.

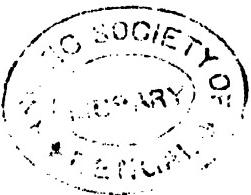
Species 103. (Mus. Sowerby.)

CYLINDRELLA BULBIFORMIS. *Cyl. testâ breviter fusiformi, roseâ, tenuissimè striatâ, ventricosâ; anfractibus apicalibus contractis, medianis convexis, inflatis, ultimo angustato, rimato, vix soluto; aperturâ magnâ subrotundâ; marginâ rotundo.*

THE BULB-SHAPED CYLINDRELLA. Shell shortly fusiform, pink, very finely striated, ventricose; apical whorls contracted, middle convex, inflated, last narrow, notched, hardly unwound; aperture large, rather round; margin round.

SOWERBY.

Hab. —— ?





105.



104.



106.



107.



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109.



110.



112.



111.



113.

CYLINDRELLA.

PLATE XII.

Species 104. (Mus. Sowerby.)

CYLINDRELLA COSTULATA. *Cyl. testā brevi, pyramidatā, validē distanter costatā, albida; anfractibus novenis, aequaliter crescentibus, convexis; ultimo longissimè soluto et producto; aperturā distantī, subquadrilaterali.*

THE SMALL-RIBBED CYLINDRELLA. Shell short, pyramidal, strongly distantly ribbed, whitish; whorls 9, equally increasing, convex; aperture distant, subquadrigular.

ADAMS. Sh. of Jamaica. Pfeiffer. Mon. Vol. VI. p. 381.
Hab. Cuba.

Species 105. (Mus. Sowerby.)

CYLINDRELLA PLICATA. *Cyl. testā brevi, albida, pyramidato-fusiformi, tenuiter crebrè costulatū; anfractibus superioribus valle attenuatis, medianis et inferioribus ventricosis, ultimo subangustato, soluto; aperturā distantī, rotundā.*

THE PLAITED CYLINDRELLA. Shell short, whitish, pyramidal-fusiform, finely closely ribbed; upper whorls much attenuated, middle and lower ventricose, last rather narrow, unwound; aperture distant, rounded.

POER. Pfeiffer. Mon. Vol. VI. p. 389.
Hab. Cuba.

Species 106. (Mus. Sowerby.)

CYLINDRELLA ARTEMESIAE. *Cyl. testā roseo-fulvā, subfusiformi, solidiusculā, obliquè striatā; anfractibus permanentibus decenis, subrectilateralibus, ultimo subcontracto, breviter soluto; aperturā subapproximatā, rotundā, margine rotundo.*

THE ARTEMESIAN CYLINDRELLA. Shell pinkly-fulvous, rather fusiform, rather solid, obliquely striated; permanent whorls ten, nearly straight-sided, last a little contracted, with a short unwinding; aperture rather near, round, margin round.
GUADALCAN. Pfeiffer. Mon. Vol. VI. p. 380.
Hab. Artemesia, Cuba.

Species 107. (Mus. Sowerby.)

CYLINDRELLA FILICOSTATA. *Cyl. testā fusiformi, purpureo-fuscā, ventricosā, costis filiformibus frequentibus albis ornatā; anfractibus permanentibus 19, superioribus angustatis, medianis subinflatis, ultimo rimato, laxato; aperturā pyriformi, superne acuminata.*

THE THREAD-RIBBED CYLINDRELLA. Shell fusiform, purple-brown, ventricose, ornamented with numerous filiform ribs; permanent whorls 19, upper narrow, middle rather inflated, last notched, unwound; aperture pyriform, acuminate above.

SHUTTLEWORTH. Pfeiffer. Mon. Vol. VI. p. 378.
Hab. Mexico.

Species 108. (Mus. Sowerby.)

CYLINDRELLA CORONADOI. *Cyl. testā sinistrali, subcylindricā, albida, solidiusculā, costulis tenuibus, subremotis sculptā; anfractibus permanentibus decenis, superioribus angustatis, ultimo rimato; aperturā approximatā, rotundā, margine rotundo.*

THE CORONADO CYLINDRELLA. Shell sinistral, subcylindrical, whitish, rather solid, sculptured with thin rather remote ribs; permanent whorls ten, superior narrow, last notched; aperture approximate, rounded, margin rounded.

ARANGO. Pfeiffer. Mon. Vol. VI. p. 379.
Hab. Near Havanna, Cuba.

Species 109. (Mus. Sowerby.)

CYLINDRELLA COSTATA. *Cyl. testā brevi, stramineā, subcylindricā, sursūm subattenuatā; anfractibus permanentibus novenis, subrectè striatis, subrectilateralibus, ultimo longè rimato; aperturā subobliquè productā.*

THE RIBBED CYLINDRELLA. Shell short, straw, subcylindrical, attenuated upwards; permanent whorls nine, with rather straight striae, nearly straight-sided, last with a long notch; aperture rather obliquely produced.

GUIDING. Pfeiffer. Mon. Vol. VI. 381.
Hab. —?

CYLINDRELLA.—PLATE XII.

Species 110. (Mus. Brit.)

CYLINDRELLA HYALINA. *Cyl. testâ pupiformi, ventricosâ, albida, semipellucidâ; anfractibus permanentibus decenâs, subobliquè costatis, tribus superioribus sensim contractis, alteris subæqualibus, ultimo contracto, longè rimato, breviter soluto; aperturâ magnâ, supernè subacuminatâ.*

THE HYALINE CYLINDRELLA. Shell pupa-shaped, ventricose, whitish, semipellucid; permanent whorls ten, rather obliquely ribbed, three upper sensibly contracted, the others nearly equal, last contracted with a long notch, shortly unwound; aperture large, ovate, subacuminate above.

PFEIFFER. Mon. Hel. Vol. VI. p. 359.

Hab. Mexico.

Species 111. (Mus. Sowerby.)

CYLINDRELLA ROBERTSII. *Cyl. testâ breri, cylindraceâ, fuscâ, striatâ; anfractibus permanentibus septenis, subæqualibus, superioribus rix angustatis, ultimo infrâ angulato, longè soluto; aperturâ distantî, subtrigonâ, supernè lato, infrâ subacuminato.*

ROBERT'S CYLINDRELLA. Shell short, cylindrical, brown, striated; permanent whorls seven, nearly equal, upper scarcely narrowed, last angular below, unwound for a long part; aperture distant, subtrigonal, broad above, rather acuminate below.

ADAMS. Pfeiffer. Mon. Vol. VI. p. 383.

Hab. Jamaica.

Species 112. (Mus. Sowerby.)

CYLINDRELLA ORNATA. *Cyl. testâ cylindried, griseâ, sparsim tenuiter costatâ, costis ad suturam in tuberculas regularibus terminatis; anfractibus permanentibus decenâs, superioribus tribus constrictis, alteris subæqualibus, ultimo alto, rimato, breviter soluto; aperturâ subdistanter obliquè produciturâ.*

THE ADORNED CYLINDRELLA. Shell cylindrical, grey, sparsely thin-ribbed, ribs terminating at the suture in regular tubercles; permanent whorls ten, upper three contracted, others nearly equal, last high, notched, shortly uncoiled; aperture rather distantly obliquely produced.

GUNDLACH. Pfeiffer. Mon. Vol. VI. p. 382.

Hab. Yateras, Cuba.

Species 113. (Mus. Sowerby.)

CYLINDRELLA CONCRETA. *Cyl. testâ breri, subfusiformi, lavi, albida, semipellucidâ, medio ventricosâ, infra paulò contractâ; anfractibus decenâs, ultimo subangustato, rimato; aperturâ approximatâ, subrotundâ.*

THE CONCRETE CYLINDRELLA. Shell short, subfusiform, smooth, whitish, semipellucid, ventricose in the middle, a little contracted below; whorls 10, last rather narrow, notched; aperture near, rather rounded.

GUNDLACH. Pfeiffer. Mon. Vol. VI. p. 363.

Hab. Cuba.

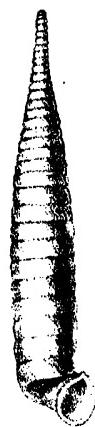




115a.



114.



115b.



116.



117.



118.

CYLINDRELLA.

PLATE XIII.

Species 114. (Mus. Brit.)

CYLINDRELLA PETIVERIANA. *Cyl. testū breviusculā, solidā, cylindricā, albida; anfractibus permanentib; bus septenī, lentissimā crescentibus, undulatim costatis; inter costas angulatim et undulatim irregulariter sculptis; ultimo subangustato, rimato, aperturā obliquā subovatā, margine duplice.*

PETIVER'S CYLINDRELLA. Shell rather short, solid, cylindrical, whitish; permanent whorls seven, very slowly increased, with wavy ribs, angularly and wavy sculptured between the ribs; last rather angular, notched; aperture obliquely subovate, margin double.

FERRERSSAC. Pfeiffer. Mon. Vol. VI. p. 391.

Hab. Antilles.

Species 115. (Fig. a, b, Mus. Brit.)

CYLINDRELLA CLAVA. *Cyl. testū succineo-fusca seu albida, tenui, altissimā, graciliformi, supra medium gradatim attenuatā; anfractibus depresso, tenuissimā striatis, permanentibus viginti, deciduis decenis, ultimo infrā angulato, longe rimato, soluto; aperturā suboblonga, obliquā ovata, supernā subacuminatā.*

THE KEY CYLINDRELLA. Shell amber brown or whitish, thin, much raised, slender, gradually attenuated above the middle; whorls depressed, very finely striated, twenty permanent, ten deciduous, last angular below, with a long notch; aperture rather distant, obliquely ovate, slightly acuminate above.

PFEIFFER. Mon. Vol. VI. p. 365.

Hab. Chiappa, Mexico.

Species 116. (Mus. Brit.)

CYLINDRELLA LEIBMANNI. *Cyl. testū solidā, ventricosissimā, levigatā, flavidō-caffea, prope suturas densiori; anfractibus permanentibus octonis, convexis, medio latissimis; suprā infrāque gradatim angustioribus, ultimo rimato ad aperturam, paulò soluto; aperturā obliquā pyriformi, supernā subacuminatā.*

LEIBMANN'S CYLINDRELLA. Shell solid, very ventricose, smooth, yellowish-coffee, more dense at the sutures; permanent whorls eight, convex, very wide in the middle, gradually narrower above and below; last notched at the aperture, a little unwound; aperture obliquely pyriform, slightly acuminate above.

PFEIFFER. Mon. II. p. 370.

Hab. Mexico.

Species 117. (Mus. Brit.)

CYLINDRELLA TURRIS. *Cyl. testū alti, ventricosi, supernā attenuatā, coffeā, tenuiter striatā; anfractibus circa triginti, inferioribus duodecim subaequalibus, rectilateralibus, lati; ultimo truncato, rimato; aperturā approximatā, subobliquā, lati, columella lati, infrā canaliculatā.*

THE TOWER CYLINDRELLA. Shell high, ventricose, attenuated above, coffee-coloured, finely striated; whorls about thirty, lower twelve rather equal, straight-sided, broad; last truncated, notched; aperture near, rather oblique, broad, columella broad, with a channel below.

PFEIFFER. Mon. IV. p. 696.

Hab. Chiappa, Mexico.

Species 118. (Mus. Brit.)

CYLINDRELLA BOUCARDI. *Cyl. testū alti, cylindrici, subaequaliter ventricosi, straminei; anfractibus permanentibus novenī, altis, rectilateralibus, ultimo infrā contracto, rimato, supra marginem aperturā arcuatā; aperturā obliquā subpyriformi, supernā subacuminatā.*

BOUCARD'S CYLINDRELLA. Shell high, cylindrical, rather equally ventricose, straw; permanent whorls nine, high, rectilateral, last contracted below, notched, arched above the margin of the aperture; aperture obliquely subpyriform, slightly acuminate above.

SALLÉ. Proc. Zool. Soc. 1856, T. XXXIII. f. 1.

Hab. Cordova and Orizaba, Mexico.

CYLINDRELLA.—PLATE XIII.

Species 119. (Mus. Brit.).

CYLINDRELLA RECTICOSTA. *Cyl. testū albidi, costis solidis, rectis, distantibus sculptā, medio infrāque cylindricā, supernū sensim contractā; anfractibus permanentibus tredecim, septenis inferioribus sub-equalibus, rīc concrecis; suturā profundā, ultimo rīmato; aperturā approximatā, latā, margine crasso.*

THE STRAIGHT-RIBBED CYLINDRELLA. Shell whitish, sculptured with solid, straight, distant ribs, cylindrical in the middle and below, sensibly contracted above; permanent whorls thirteen, seven lower nearly equal, hardly convex; suture deep, last notched; aperture approximate, broad, margin thick.

PFEIFFER. Mon. II. p. 369.
Hab. Oaxaca, Mexico.





121a



120



121b



123



122a



124



122b



125



126



127

C Y L I N D R E L L A.

PLATE XIV.

Species 120. (Mus. Sowb.)

CYLINDRELLA DOMINICENSIS. *Cyl. testū brevi, fulvā, subfusciformi; anfractibus novenis, subconvexis, ultimo longè soluto; aperturā distanti, parvā, obliquā subovatā, margine rotundo.*

THE DOMINICAN CYLINDRELLA. Shell short, fulvous, subfusciform; whorls nine, rather convex, last with long part unwound; aperture distant, small, obliquely subovate, margin rounded.

PFEIFFER. Mon. III. p. 574.

Hab. Haiti, Peru.

Species 121. (Fig. a, b, Mus. Brit.)

CYLINDRELLA VOLUBILIS. *Cyl. testū altā, fulvā, semi-pellucidā, angustē cylindricā, levigatā, nitenti; anfractibus octodecenis, inferioribus decenis sub-aqualibus, rectilateralibus; ultimo soluto, obliquè ad aperturam declivi; aperturā obliquā orati.*

THE VOLUBLE CYLINDRELLA. Shell high, fulvous, semipellucid, narrowly cylindrical, smooth, shining; whorls eighteen, lower ten nearly equal, straight-sided; last unwound, sloped down obliquely towards the aperture; aperture obliquely ovate.

MORELET. Pfeiffer. Mon. III. p. 576.

Cylindrella siccosa. Poey.

Hab. Cuba.

Species 122. (Fig. a, b, Mus. Brit.)

CYLINDRELLA SCÉVA. *Cyl. testū sinistrali, pupaformi, tenuissimè striatā, caffé; anfractibus permanentibus decenis, concrexiunculis, superioribus contractis, medianis inflatis, inferioribus subangustatis; aperturā subdistanti, latā.*

THE LEFT-HANDED CYLINDRELLA. Shell sinistral, pupa-shaped, very finely striated, coffee-coloured; permanent whorls ten, rather convex, upper contracted, middle inflated, lower rather narrowed; aperture a little distant, broad.

GUNDLACH. Pfeiffer. Malak. Bl. 1863.

Hab. Near Matanzas, Cuba.

Species 123. (Mus. Brit.)

CYLINDRELLA ARCTISPIRA. *Cyl. testū altā, solidā, albida, cylindricā, medio subinflatō; anfractibus permanentibus quindecenis, compressis, valde concavis, costis validis, arcuatīs, crebris, sculptis; ultimo rimato; aperturā maguā, rotundā, margine crasso.*

THE BOW-SPIRED CYLINDRELLA. Shell raised, solid, white, cylindrical, middle rather inflated; permanent whorls fifteen, compressed, very convex, sculptured with strong, arched, numerous ribs; last notched; aperture large, rounded, margin thick.

PFEIFFER. Proc. Zool. Soc. 1860, p. 132.

Hab. Jinquila, Mexico.

Species 124. (Mus. Brit.)

CYLINDRELLA TOMACELLA. *Cyl. testū altā, subcylindrica, tenuissimè striatā, succino-rubescens; anfractibus permanentibus duodecenis, octonis inferioribus sub-aqualibus, rectilateralibus; ultimo subcontracto; rimato, soluto; aperturā obliquā subpyriformi, distantī, supernè subacuminatā.*

THE LONG-PUDDING CYLINDRELLA. Shell high, subcylindrical, very finely striated, reddish amber; permanent whorls twelve, eight lower nearly equal, rectilateral, last a little contracted; notched, uncoiled; aperture obliquely subpyriform, distant, acuminated above.

MORELET. Pfeiffer. Mon. III. p. 568.

Cylindrella Moreleti. Deshayes.

Hab. Guatemala.

Species 125. (Mus. Brit.)

CYLINDRELLA SUBTILIS. *Cyl. testū gracili, altā, subfusciformi, griseo-fuscā, levigatā, supernè longè contractā, infra medium subventricosā; anfractibus viginti, inferioribus quinis senis, superioribus quindecenis angustissimis, ultimo infrā attenuato, soluto; aperturā majusculā, ovalā, distantī, margine reflexo.*

CYLINDRELLA.—PLATE XIV.

THE SUBTLE CYLINDRELLA. Shell slender, high, rather fusiform, grey-brown, smooth, with a long part contracted above, rather ventricose below the middle; whorls twenty, lower five full, upper fifteen extremely narrow, last attenuated below, unwound; aperture rather large, oval, distant, margin reflected.

MORELET. Pfeiffer. Mon. III. p. 577.

Hab. Guatemala.

* Species 126. (Mus. Brit.)

CYLINDRELLA CINEREA. *Cyl. testū fusiformi, altū, griseā, obliquè costatū, ultimo anfractu medio torto, contracto, elongato, longè soluto; aperturā rotundā, distanti, decliri.*

THE CINEROUS CYLINDRELLA. Shell fusiform, high, grey, obliquely ribbed, last whorl tortuous in

the middle, contracted, lengthened, much unwound; aperture rounded, distant, sloped.

PFEIFFER. Mon. III. p. 578.

Hab. Cuba.

Species 127. (Mus. Brit.)

CYLINDRELLA ZEBRINA. *Cyl. testū solidūsculū, subn. tricosā, subpyramidalē, fulvā, fasciis perpendicularib. fuscis pictā; anfractibus permanentib. nōcenis, levigatis, convexis; aperturā ovalē, margine crasso.*

THE ZEBRA CYLINDRELLA. Shell rather solid, rather ventricose, subpyramidal, fulvous, painted with perpendicular brown bands; permanent whorls nine, smooth, convex; aperture ovate, margin thick.

PFEIFFER. Mon. III. p. 584.

Hab. Jamaica.





128



129



130



131



132



133



134 a



134 b



134 c



134 d

C Y L I N D R E L L A.

PLATE XV.

Species 128. (Mus. Brit.)

CYLINDRELLA SEXDECIMALIS. *Cyl. testâ gracillimâ, fusiformi, fulvâ, tenui, semipellucidâ, lævigatâ; anfractibus sexdecenisi, convexis; apicali globoso, sequentibus senis attenuatis, medianis inflatis, ultimo longissimè obliquè soluto, striato; aperturâ distanti, rotundâ, margine crasso.*

THE SIXTEEN-WHORLED CYLINDRELLA. Shell very narrow, fusiform, fulvous, thin, semipellucid, smooth; whorls sixteen, convex; apical subglobose, six following attenuated, middle inflated, last with a long piece uncoiled, striated; aperture distant, rounded, margin thick.

JIMENO. MS. Pfcr. Mon. Vol. VI. p. 384.

Hab. Bermeja vieja, Cuba.

The variegation spoken of in the original description is not perceptible in the British Museum specimens.

Species 129. (Mus. Brit.)

CYLINDRELLA APIOSTOMA. *Cyl. testâ gracillimâ, subcylindricâ, fulvâ; anfractibus octodecenisi, supra medium attenuatis, infrâ subæqualibus, ultimo distorto, striato, soluto; aperturâ subdistanti, subtriangularis, superne latâ, infrâ subcontractâ.*

THE DESCENDING-MOUTHED CYLINDRELLA. Shell very slender, subcylindrical, fulvous; whorls eighteen, attenuated above the middle, nearly equal, last distorted, striated, uncoiled; aperture rather distant, subtriangular, broad above, rather contracted below.

PFEIFFER. Mon. IV. p. 703.

Hab. Cordova, Mexico.

Species 130. (Mus. Brit.)

CYLINDRELLA GRACILLIMA. *Cyl. testâ gracillimâ, fulvâ, prope apicem contractâ, supra medium subinflatâ, medio et infrâ subcontractâ; ultimo anfractu elongato, infrâ attenuato, perobliquè soluto; aperturâ latâ, margine subexpanso.*

THE VERY SLENDER CYLINDRELLA. Shell very thin, fulvous, contracted near the apex, somewhat inflated above the middle, rather contracted at

and below the middle; last whorl elongated, attenuated below, very obliquely unwound; aperture broad, margin a little expanded.

POEY. Pfeiffer, Mon. III. p. 576.

Hab. Cuba.

The swelled portion of this narrow shell is above the middle of the lengthened spire.

Species 131. (Mus. Brit.)

CYLINDRELLA VARIEGATA. *Cyl. testâ breviæsculâ, latiæsculâ, cylindricâ, tenuiter liratâ, fulvâ et subroseâ, obliquè fasciis fuscis variegatâ; anfractibus permanentibus novenis, moderatè convexis, supra medium gradatim attenuatis, ultimo rimato, breviter soluto: aperturâ subdistanti, ovatâ, obliquâ, margine subrotundo.*

THE VARIEGATED CYLINDRELLA. Shell rather short, rather broad, cylindrical, finely ridged, fulvous and pinky, variegated with oblique brown bands; permanent whorls nine, moderately convex, gradually attenuated above the middle, last notched, shortly uncoiled; aperture rather distant, ovate, oblique, margin rather rounded.

PFEIFFER. Mon. II., p. 374.

Hab. Cuba, Florida.

Species 132. (Mus. Brit.)

CYLINDRELLA PHILIPPINA. *Cyl. testâ gracili, fusiformi, fulvâ, regulariter, subdistanter, tenuiter costatâ; anfractibus octodecenisi, apicalibus inflatis, globosis, sequentibus septenis angustis, medianis subinflatâ, ultimo subcontracto, longè soluto; aperturâ obliquâ ovatâ, margine crasso.*

PHILIPPI'S CYLINDRELLA. Shell slender, fusiform, fulvous, regularly, rather distantly, finely ribbed; whorls eighteen, apical inflated, globose, seven following narrow, middle rather inflated, last rather narrowed, with long unwinding; aperture obliquely ovate, margin thick.

PFEIFFER. Mon. II. p. 378.

Cylindrella aculeus. Morelet.

Hab. Cuba.

CYLINDRELLA.—PLATE XV.

Species 133. (Mus. Brit.)

CYLINDRELLA CUMINGIANA. *Oyl. testā brevi, pupoformi, levigatā, versus apicem inflatā, infrā attenuatā; anfractibus octonis, ultimo contracto, rimato, longè soluto; aperturā auriformi, supernè subacuminato.*

CUMING'S CYLINDRELLA. Shell short, pupa-shaped, smooth, inflated towards the apex, attenuated below; whorls eight, last contracted, notched, with lengthened portion unwound; aperture ear-shaped, rather acuminate.

PFEIFFER. Mon. II. p. 385.

Hab. Philippine Islands.

Species 134. (Fig. a, b, c, d, Mus. Brit.)

CYLINDRELLA MAUGERI. *Cyl. testā pyramidatā, levi-*

gatā, albā, vel flavidā, ad aperturam rosatā, vel fusco-nigrescenti, ad suturam albo fasciatā, medio paulò inflatā; anfractibus circā decenisi, ultimo contracto; aperturā subovatā, margine reflexo, interrupto, columellā flexuosa.

MAUGER'S CYLINDRELLA. Shell pyramidal, smooth, white or yellowish-pink at the aperture, or blackish-brown, with white banded suture, a little inflated in the middle; whorls about ten, last contracted; aperture subovate, margin reflected, interrupted, columella flexuous.

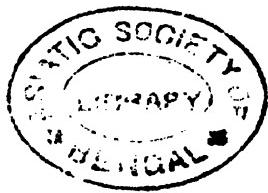
Wool (Helix). Index Testaceologicus.

Pupa splendens. Menke.

Helix ignifera. Ferrussac.

Pupa fusiformis. Adams.

Hab. Jamaica.





136.



135.



137.



139.



138.



140.



a.



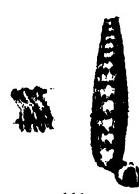
b.



142.



143.



144.

C Y L I N D R E L L A.

PLATE XVI.

Species 135. (Mus. Brit.)

CYLINDELLA LUCENS. *Cyl. testā subpyramidalē, angustā; albida, semipellucidā, anfractibus duodecenis, gradatim crescentibus, convervis, ultimo angustissimo, paulū soluto; aperturā subrotundā, superne depresso, cuneatā.*

THE LUCID CYLINDELLA. Shell subpyramidal, narrow, whitish, semipellucid, whorls twelve, gradually increased, convex, last rather narrow, a little unwound; aperture rather round, depressed above, cuneate.

WRIGHT. MS. Brit. Mus.

Hab. Cuba.

Species 136. (Mus. Brit.)

CYLINDELLA MORINI. *Cyl. testā fuscā, pyramidato-subfusiformi; anfractibus quindecenis, brevibus, perobliquū liratis, superioribus attenuatis, inferioribus paulū magis ventricosis, ultimo longè soluto, subtortu; aperturā distanti, transversē oblongā, utrinque subcuminata.*

MORINI'S CYLINDELLA. Shell brown, pyramido-fusiform; whorls fifteen, short, very obliquely ridged, upper attenuated, lower a little more ventricose; last with a long unwinding, a little twisted; aperture distant, transversely oblong, slightly acuminate on each side.

MORELET. Pfeiffer, Mon. Helic. VI. p. 388.

Hab. Verapaz, Guatemala.

Species 137. (Mus. Brit.)

CYLINDELLA PLANOSPIRA. *Cyl. testā angustā, cylindrica, semipellucidā, pallidē succineo-corneā; anfractibus permanentibus, undecenis brevibus, convexisculis; aperturā distanti, supernē infrāque angustatā.*

THE PLAINSPIRED CYLINDELLA. Shell narrow, cylindrical, semipellucid, pale horny amber; permanent whorls eleven, rather short, a little convex; aperture distant, angular above and below.

PFEIFFER. Mon. Helic. p. 371.

Hab. Monte Cuzco, Cuba.

Species 138. (Mus. Brit.)

CYLINDELLA MALLEATA. *Cyl. testā solidā, albida, fuscā, distanter striatā, irregulariter rugis punctulatis angulatis sagittatā, ventricosā, medio inflatā; anfractibus octonis, lati, brevissimis; ultimo infra subangustato, carinato; aperturā irregulariter subquadrato, margine crasso, rotundo, inaequali.*

THE HAMMERED CYLINDELLA. Shell solid, whitish, distantly striped with brown, irregularly shaded with punctured angular wrinkles, ventricose, inflated in the middle; whorls eight, broad, rather short, last a little narrowed and keeled below; aperture irregularly subquadrate, margin thick, round, unequal.

PFEIFFER. Mon. Helic. VI. p. 363.

Hab. St. Domingo.

Species 139. (Mus. Brit.)

CYLINDELLA CAMOENSIS. *Cyl. testā fusiformi, attenuatā, altissimā, fumoso-castanēa, anfractibus riginti, brevibus, medio subinflatis, laminis crebris ad suturam suprā infraque prominentibus, medio obsoletis, sculptis; ultimo angustato, soluto; aperturā rotundā.*

CAMOENS' CYLINDELLA. Shell fusiform, attenuated, much elevated, smoky chestnut, whorls twenty, short, a little inflated in the middle, sculptured with numerous laminae, prominent above and below, and obsolete in the middle; last narrow, unwound; aperture rounded.

PFEIFFER. Mon. Helic. VI. p. 388.

Hab. Cuba.

The fine laminated ridges form rounded scales at the top and bottom of each whorl, and are almost lost in the middle.

Species 140. (Mus. Brit.)

CYLINDELLA BEARDSLEYANA. *Cyl. testā pallidē fuscā, tenuiter liratā, subpyramidalē; anfractibus novenis, subconvexis, gradatim crescentibus, liris frequentibus, curvis, interstitiis latioribus.*

CYLINDRELLA.—PLATE XVI.

BEARDSLEY'S CYLINDRELLA. Shell pale brown, finely ridged, somewhat pyramidal; whorls nine, rather convex, gradually increased, ridges numerous, curved, interstices wider.

C. B. ADAMS. —?

Hab. Jamaica.

Species 141. (Mus. Brit.)

CYLINDRELLA TURKASIANA. *Cyl. testā fusiformi, angustā, semipellucidā, lāvi, pallidē succineā; anfractibus septendecenis, superioribus inferioribusque attenuatis, medianis subinflatīs, ultimo longissimē soluto, declivi, rugato, tortuoso; aperturā parvā, distantissimā.*

THE TURCASIAN CYLINDRELLA. Shell fusiform, narrow, semipellucid, smooth, pale amber; whorls seventeen, upper and lower attenuated, middle a little inflated, last with a long piece unwound, sloped downward, wrinkled, twisted; aperture small, very distant.

GUNDLACH. Pfeiffer. Mon. Helic. VI. p. 385.

Lescallei. Gundlach?

Hab. Monte Toro, Cuba.

Species 142. (Mus. Brit.)

CYLINDRELLA RUGELIANA. *Cyl. testā parvā, angustā, pyramidalā, opacā, fulvā, distanter striatā; anfractibus quaterdecenis, tenuiter acutā liratis, brevissimē ultimo longè soluto, tortuoso; aperturā parvā, distantia; apice attenuata, acuminate.*

RUGELI'S CYLINDRELLA. Shell small, narrowly pyramidal, opaque, fulvous, distantly striped; whorls fourteen, finely, acutely ridged, very short, last with long portion unwound, twisted; aperture small, distant; apex attenuated, acuminate.

SHUTTLEWORTH. Pfeiffer. Mon. Hel. VI. p. 368.
Hab. Cuba.

Species 143. (Mus. Brit.)

CYLINDRELLA PUPÆFORMIS. *Cyl. testā brevi, lāvi, cylindricā, semipellucidā, albā, vel castaneā; anfractibus permanentibus senis, brevibus, convexis; ultimo breviter soluto, aperturā subdistanti, magnā, margine crassō, subrotundo.*

THE PUPA-SHAPED CYLINDRELLA. Shell short, smooth, cylindrical, semipellucid, white or chestnut; permanent whorls six, short, convex; last with short unwinding; aperture rather distant, large, margin thick, rather rounded.

C. B. ADAMS. Pfeiffer, Mon. Helic. VI. p. 370.

Hab. Jamaica.

Species 144. (Mus. Brit.)

CYLINDRELLA UNCATA. *Cyl. testā cylindricā, solūliūsculā, latiusculā, pallidē cornēdā, medio paulò inflato; anfractibus undecenis, brevibus, subdistanter liratis; ultimo subangustato, soluto, versus aperturam coarctato; liris anfractuum ad suturam suprà infrāque quasi uncinatis, aperturā distantia, subtrigonā.*

THE HOOKED CYLINDRELLA. Shell cylindrical, very solid, rather broad, pale horn; a little inflated in the middle; whorls eleven, short, rather distantly ridged, last rather narrow, unwound, contracted towards the aperture; ridges of the whorls, as it were, hooked at the suture above and below; aperture distant, subtrigonal.

GUNDLACH. Pfeiffer. Mon. Helic. VI. p. 382.

Hab. Yateras, Cuba.

The tubercles formed at the sutures on the ridges have the appearance of little hooks.

CYLINDRELLA.

	Plate.	Species.		Plate.	Species.
<i>aculeus</i> , Morelet	XV.	132	<i>Cumingiana</i> , <i>Pfeiffer</i>	XV.	133
<i>acutus</i> , <i>Pfeiffer</i>	VII.	62	<i>cylindrus</i> , <i>Chemnitz</i>	II.	9
<i>Adamsiana</i> , <i>Pfeiffer</i>	II.	16	<i>cylindrus</i> . See <i>alta</i>	VIII.	68
<i>Agnesiana</i> , <i>Adams</i>	V.	43	<i>denticulata</i> , <i>Pfeiffer</i>	III.	22
<i>alabastrina</i> , <i>Pfeiffer</i>	IX.	81	<i>Dominicensis</i> , <i>Pfeiffer</i>	XIV.	120
<i>albo-crenata</i> , <i>Pfeiffer</i>	IV.	27	<i>Dunkeriana</i> , <i>Pfeiffer</i>	VIII.	69
<i>alta</i> , <i>Sowerby</i> (cylindrus by error)	VIII.	58	<i>elegans</i> , <i>Pfeiffer</i>	IV.	36
<i>amethystina</i> , <i>Chitty</i>	II.	15	<i>Elliotti</i> , <i>Poey</i>	VI.	47
<i>angustæ</i> , <i>Adams</i>	VII.	63	<i>elongata</i> , <i>Chemnitz</i>	IV.	33
<i>angustior</i> , <i>Wright</i>	XI.	97	<i>eximia</i> , <i>Pfeiffer</i>	I.	6
<i>antiperversa</i>	XI.	35	<i>Fabreana</i> , <i>Poey</i>	VIII.	70
<i>apiostoma</i> , <i>Pfeiffer</i>	XV.	129	<i>fastigiata</i> , <i>Gundlach</i>	IV.	34
<i>areispira</i> , <i>Pfeiffer</i>	XIV.	123	<i>fibrosa</i>		
<i>arenata</i> , <i>Martens</i>	VI.	49	<i>filicostata</i> , <i>Shuttleworth</i>	XII.	107
<i>aritispira</i> , <i>Pfeiffer</i>	I.	5	<i>flammlata</i> , <i>Pfeiffer</i>	II.	8
<i>artemesiae</i> , <i>Gundlach</i>	XII.	106	<i>fusiformis</i> , <i>Adams</i>	XV.	134
<i>asperata</i> , <i>Sowerby</i> (aspera by error)	XI.	98	<i>Garciana</i> , <i>Wright</i>	VIII.	66
<i>aspera</i> , <i>Adams</i>	I.	1	<i>Gheisbrighti</i> , <i>Pfeiffer</i>	I.	7
<i>Auberiana</i> , <i>Orbigny</i>	IV.	36	<i>goniostoma</i>	VIII.	72
<i>Beardsleyana</i> , <i>Adams</i>	XVI.	140	<i>Gossei</i> , <i>Pfeiffer</i>	IV.	35
<i>Binneyana</i> , <i>Pfeiffer</i>	VI.	53	<i>gracilis</i> , <i>Wood</i>	IX.	78
<i>Boucardi</i> , <i>Sallé</i>	XIII.	118	<i>gracillima</i> , <i>Poey</i>	XV.	130
<i>Brookesiana</i> , <i>Gundlach</i>	VI.	52	<i>grandis</i> , <i>Pfeiffer</i>	I.	4
<i>brunnescens</i> , <i>Gundlach</i>	X.	92	<i>Gravesii</i> , <i>Adams</i>	III.	18
<i>bulbiformis</i> , <i>Sowerby</i>	XI.	103	<i>Hanleyana</i> , <i>Pfeiffer</i>	V.	37
<i>carinata</i> , <i>Pfeiffer</i>	VIII.	67	<i>Hilleri</i> , <i>Pfeiffer</i>	XI.	96
<i>camoensis</i> , <i>Pfeiffer</i>	XVI.	139	<i>Hollandi</i> , <i>Pfeiffer</i>	IX.	76
<i>cærulans</i> , <i>Poey</i>	III.	21	<i>Humboldtiana</i> , <i>Pfeiffer</i>	III.	25
<i>Chemnitziiana</i> , <i>Ferrussac</i>	IV.	33	<i>hyalina</i> , <i>Pfeiffer</i>	XII.	110
<i>chordata</i> , <i>Pfeiffer</i>	V.	38	<i>ignifera</i> , <i>Ferrussac</i>	XV.	134
<i>cinerca</i> , <i>Pfeiffer</i>	XIV.	126	<i>illamellata</i> , <i>Wright</i>	X.	87
<i>clara</i> , <i>Wright</i>	LX.	82	<i>inornata</i> , <i>Adams</i>	XI.	99
<i>clava</i> , <i>Pfeiffer</i>	XIII.	115	<i>integra</i> , <i>Pfeiffer</i>	X.	93
<i>collaris</i> , <i>Ferrussac</i>	XI.	95	<i>intermedia</i> , <i>Sowerby</i>	X.	91
<i>columnella</i>	III.	25	<i>interrupta</i> , <i>Gundlach</i>	VIII.	71
<i>concreta</i> , <i>Gundlach</i>	XII.	113	<i>intusmalleata</i> , <i>Gundlach</i>	VII.	64
<i>cornea</i> , <i>Adams</i>	II.	12	<i>irrorata</i> , <i>Gundlach</i>	IV.	32
<i>Coronadoi</i> , <i>Arango</i>	XII.	108	<i>lata</i> , <i>Adams</i>	VII.	58
<i>costata</i> , <i>Guilding</i>	XII.	109	<i>Lateradii</i> , <i>Grateloup</i>	X.	86
<i>costatus</i> , <i>Gray</i>	IV.	30	<i>Lavalliana</i> , <i>Orbigny</i>	VII.	56
<i>costulata</i> , <i>Adams</i>	XII.	104	<i>Leibmanni</i> , <i>Pfeiffer</i>	XIII.	116
<i>costulosa</i> , <i>Adams</i>	IV.	30	<i>Lescallei</i>	XVI.	141
<i>crispula</i> , <i>Pfeiffer</i>	V.	39	<i>lituus</i> , <i>Gould</i>	IV.	36
<i>Cumingii</i> , <i>Adams</i>	IV.	33	<i>lucens</i> , <i>Wright</i>	XVI.	135

CYLINDRELLA.

	Plate.	Species.		Plate.	Species.
macrostoma, <i>Pfeiffer</i>	III.	26	Rüsei, <i>Pfeiffer</i>	XI.	94
malleata, <i>Pfeiffer</i>	XVI.	138	Salleana, <i>Pfeiffer</i>	V.	40
maugeri, <i>Wood</i>	XV.	134	sanguinea, <i>Chennitz</i>	II.	12
megacheila, <i>Chiltly</i>	VI.	54	Sauvalliana, <i>Gundlach</i>	VI.	50
Mexicana, <i>Pfeiffer</i>	VII.	61	sarosa, <i>Poey</i>	XIV.	121
microstoma, <i>Pfeiffer</i>	V.	42	scæva, <i>Gundlach</i>	XIV.	122
montana, <i>Adams</i>	V.	44	scalarina, <i>Shuttleworth</i>	IX.	74
Moreleti, <i>Pfeiffer</i>	VII.	59	seminuda, <i>Adams</i>	V.	46
Morini, Morelet	XVI.	136	sexdecimalis, <i>Jimeno</i>	XV.	128
multispiralis, <i>Sowerby</i>	IX.	79	Shuttleworthiana, <i>Poey</i>	III.	23
nobilior, <i>Adams</i>	VI.	53	soluta, <i>Pfeiffer</i>	IX.	75
nobilis, <i>Heutz</i>	IV.	36	Sowerbiana, <i>Pfeiffer</i>	III.	20
notata, <i>Gundlach</i>	XI.	102	speciosa, <i>Dunker</i>	I.	2
obesa, <i>Martens</i>	VIII.	73	splendens, <i>Menke</i>	XV.	134
obliqua, <i>Pfeiffer</i>	IV.	28	splendida, <i>Pfeiffer</i>	I.	3
obtorta, <i>Menke</i>	IV.	36	striatella, <i>Wright</i>	VII.	55
ornata, <i>Gundlach</i>	XII.	112	subtilis, <i>Morelet</i>	XIV.	125
ovicoloiana, <i>D'Orbigny</i>	II.	13	suturalis, <i>Weinland</i>	III.	19
pallida, <i>Guilding</i>	IV.	30	teneila, <i>Adams</i>	XI.	101
perlata, <i>Pfeiffer</i>	X.	88	teres, <i>Menke</i>	V.	45
perplicata, <i>Ferrussac</i>	IV.	29	tomacella, <i>Morelet</i>	XIV.	124
Petiveriana, <i>Ferrussac</i>	XIII.	114	Teneriensis, <i>Wright</i>	X.	84
Philippiana, <i>Pfeiffer</i>	XV.	132	transaperta, <i>Sowerby</i>	IX.	77
Piloceri, <i>Pfeiffer</i>	VI.	48	Trinitaria, <i>Pfeiffer</i>	V.	41
planospira, <i>Pfeiffer</i>	XVI.	137	trochæformis, <i>Sowerby</i>	IX.	80
planulata	II.	8	troncatula	XI.	35
plicata, <i>Poey</i>	XII.	105	tumidiora, <i>Sowerby</i>	VIII.	65
polygyra, <i>Pfeiffer</i>	VII.	57	turris, <i>Pfeiffer</i>	XIII.	117
orrecta, <i>Gould</i>	XI.	100	Turkassiana, <i>Gundlach</i>	XVI.	141
procera, <i>Adams</i>	II.	14	uncata, <i>Gundlach</i>	XVI.	144
producta, <i>Gundlach</i>	X.	89	variegata, <i>Pfeiffer</i>	XV.	131
pruinosa, <i>Morelet</i>	IV.	31	Vignalensis, <i>Wright</i>	IX.	83
puncturata, <i>Pfeiffer</i>	III.	24	violacea, <i>Wright</i>	VII.	60
pupaformis, <i>Adams</i>	XVI.	143	ventricosa, <i>Gundlach</i>	III.	17
purpurea, <i>Gray</i>	II.	9	volubilis, <i>Morelet</i>	XIV.	121
recticosta, <i>Pfeiffer</i>	XIII.	119	Walpolei, <i>Sowerby</i>	VI.	51
Robertsii, <i>Adams</i>	XII.	111	Wrightii, <i>Pfeiffer</i>	X.	85
rosea, <i>Adams</i>	II.	11	zebrina, <i>Pfeiffer</i>	XIV.	127
rubella, <i>Adams</i>	II.	9	zonata, <i>Adams</i>	II.	10
Rugeliana, <i>Shuttleworth</i>	XVI.	142			

MONOGRAPH

OF THE GENUS

P U P A.

Things that were not, at Thy command,
In perfect form before Thee stand ;
And all to their Creator raise
A wondrous harmony of praise.





3. a



4. a



3. b



P U P A.

PLATE I.

Genus PUPA. Draparnaud.

Testa terrestris, cylindrica, rimata, plerumque destralvis nonnunquam sinistralis plerumque chrysalidiformis multispiralis, apice obtuso. Apertura frequenter plicata et dentata, margine reflexo, continuo. Operculum nullum.

SHELL TERRESTRIAL. Cylindrical, creased, generally chrysalis-shaped, with many whorls and obtuse apex. Aperture frequently plaited and toothed, margin reflected, continuous. Operculum none.

In the following monograph, which cannot be made absolutely complete in this work, the genera *GIBBUS*, *ENNEA*, and *VERTIGO* are included with the undisputed Pupa. The species are found on most European continents and islands, particularly the more southern parts, and are also abundant in the East and West Indies, South Sea Islands, and other localities too numerous to mention. They are only wanting or rare in the colder climates. The *rima* in this and other genera of pupa-shaped land shells is a crease formed by an abnormal doubling as it were of the last whorl, bringing the mouth by a somewhat sudden turn to the front.

Species 1. (Mus. Sowerby.)

PUPA BRYANTI. *Pup. testa breviter cylindrica, breviter rimata, albida, castaneo-maculata; anfractibus octonis, plicis solidis, subdistantibus, rectiusculis mucilis; apertura ovata, margine rotundo, reflexo, columella biplicata.*

BAYANT'S PUPA. Shell shortly cylindrical, shortly creased, whitish, mottled with chestnut; whorls eight, strengthened with solid, rather distant, rather straight ribs; aperture ovate, margin rounded, reflected; columella with two plaits.

PFEIFFER. Mon. Hel. VI. p. 92.

Hab. South Magna, Bahamas.

From its form and mottled colouring, this species would seem to resemble Pupa Chrysalis with its whorls vertically depressed, but with the addition of two plaits on the columella.

Species 2. (Fig. a, b, Mus. Brit.)

PUPA GLANS. *Pup. testa obesa, chrysalidiformi, solida, subcarulea, nonnunquam castaneo variegata, versus apicem acuminata; anfractibus decenis, costis validis munitis; apertura intus castanea, margine aureo, columella crassa, validè biplicata.*

THE ACORN PUPA. Shell obese, chrysalis-shaped, solid, bluish, sometimes varied with chestnut, acuminated towards the apex; whorls ten, strengthened with strong ribs; aperture chestnut within, margin golden, columella thick, strongly biplicate.

KÜSTER. Pfeiffer, Mon. Hel.

Hab. New Providence, Bahamas.

Species 3. (Fig. a, b. Mus. Brit.)

PUPA MUMIA. *Pup. testa oblongo-chrysalidiformi, subcærula, nonnunquam castaneo variegata, versus apicem acuminata, subleviter costata; apertura aurea, margine crassissima, columella validè biplicata, inter plicis profunde sinuata.*

THE MUMMY PUPA. Shell oblong-chrysalis-shaped, bluish, sometimes mottled with chestnut, acuminated towards the apex, rather lightly ribbed; aperturo golden; margin very thick, columella with two strong plaits, deeply sinuated between the plaits.

BRUGUIENE. Enc. Met.

Pupa sculpta, Poey (var.)

Pupa mumiola? Pfeiffer.

Hab. Cuba.

Species 4. (Mus. Brit.)

PUPA PROTEUS. *Pup. testa latissima, breviter cylindrica, subtruncata, cærula, solidia; anfractibus decenis, superioribus depressis, alteris costis crassis subdistantibus munitis; apertura latâ, intus aurea, margine crasso, albido, supra columellam implicato.*

PUPA.—PLATE I.

THE PROTEUS PUPA. Shell very wide, shortly cylindrical, somewhat truncated, bluish, solid; whorls ten, upper depressed, others strengthened with slightly distant strong ribs; aperture broad golden within, margin thick, whitish, with a plait above the columella.

GUNDLACH MS. Pfr. VI. p. 291.

Pupa dimidiata, Pfeiffer (*olim*).

Hab. Cuba.

Species 5. (Mus. Brit.)

PUPA CHRYSALIS. *Pup. testā elongato-chrysalidiformi, fulvā castaneo-marmoratā; costis distantibus, validis; spirā obtusā; anfractibus undecenis, inferioribus altis, rectilateralibus; aperture margine auriformi, ulbo, rotundo, columellā edentulā.*

THE CHRYSALIS PUPA. Shell elongated, chrysalis-shaped, fulvous, marbled with chestnut; ribs distant, strong; spire obtuse; whorls eleven, lower high, straight-sided; margin of aperture ear-shaped, white, rounded; columella without teeth.

BECK, Pfeiffer, Mon. II. p. 314.

Hab. Cuba.

Of a more straight and lengthened cylindrical form than Pupa Mumia and without plaits on the columella.

Species 6. (Mus. Brit.)

PUPA INCRASSATA. *Pup. testā obesā, cylindricā, subtruncatā, subcæruleā; costis subobliquis, distantibus, levibus; aperturā auriformi, flexuosa; margine albido, crassissimo; labio externo supernè flexuoso, labio interno validè biplicato.*

THE THICKENED PUPA. Shell obese, cylindrical, slightly truncated, bluish; ribs rather oblique, distant, smooth; aperture auriform, flexuous; margin whitish, very thick; outer lip flexuous above, inner lip with two strong folds.

SOWERBY.

Hab. Cuba.

The writer having figured this shell under the name of *P. tumida*, and finding that name already used for another species, is obliged to re-name it. It resembles *P. proteus*, but its chief peculiarity is a much thickened and flexuous margin.

Species 7. (Mus. Brit.)

PUPA UVA. *Pup. testā chrysalidiformi, cærula, crassicostatā; anfractibus undecenis, rectilateralibus; apertura subovatā, aurea, margine interno vix plicato.*

THE GRAPE PUPA. Shell chrysalis-shaped, bluish, thick-ribbed; whorls eleven, straight sided; aperture subovate, golden, inner margin scarcely plaited.

LINNÆUS. Syst. Nat.

Hab. Guadalupe.

P U P A.

PLATE I.

Genus PUPA. Draparnaud.

Testa terrestris, cylindrica, rimata, plerumque deextralis nonnunquam sinistralis plerumque chrysalidiformis multispiralis, apice obtuso. Apertura frequenter plicata et dentata, margine reflexo, continuo. Operculum nullum.

SHELL TERRESTRIAL. Cylindrical, creased, generally chrysalis-shaped, with many whorls and obtuse apex. Aperture frequently plaited and toothed, margin reflected, continuous. Operculum none.

In the following monograph, which cannot be made absolutely complete in this work, the genera GIBBES, ENNEA, and VERTIGO are included with the undisputed Pupa. The species are found on most European continents and islands, particularly the more southern parts, and are also abundant in the East and West Indies, South Sea Islands, and other localities too numerous to mention. They are only wanting or rare in the colder climates. The *rima* in this and other genera of pupa-shaped land shells is a crease formed by an abnormal doubling as it were of the last whorl, bringing the mouth by a somewhat sudden turn to the front.

Species 1. (Mus. Sowerby.)

PUPA BRYANTI. *Pup. testā breviter cylindrica, breviter rimata, albida, castaneo-maculata; anfractibus rotatis, ploris solidis, subdistantibus, rectiusculis munitis; aperturā ovalatā, margine rotundo, reflexo, columellā biplicatā.*

BRYANT'S PUPA. Shell shortly cylindrical, shortly creased, whitish, mottled with chestnut; whorls eight, strengthened with solid, rather distant, rather straight ribs; aperture ovate, margin rounded, reflected; columella with two plaits.

PFEIFFER. Mon. Hel. VI. p. 92.
Hab. South Magna, Bahamas.

From its form and mottled colouring, this species would seem to resemble Pupa Chrysalis with its whorls vertically depressed, but with the addition of two plaits on the columella.

Species 2. (Fig. a, b, Mus. Brit.)

PUPA GLANS. *Pup. testū obesū, chrysalidiformi, solidā, subcaeruleā, nonnunquam castaneo variegatā, versū apicem acuminatā; anfractibus decenis, costis validis munitis; aperturā intūs castanā, margine aureo, columellā crassā, valide biplicatā.*

THE ACORN PUPA. Shell obese, chrysalis-shaped, solid, bluish, sometimes varied with chestnut, acuminated towards the apex; whorls ten, strengthened with strong ribs; aperture chestnut within, margin golden, columella thick, strongly biplicate.

KÜSTER. Pfeiffer, Mon. Hel.

Hab. New Providence, Bahamas.

Species 3. (Fig. a, b. Mus. Brit.)

PUPA MUMIA. *Pup. testā oblongo-chrysalidiformi, subcaeruleā, nonnunquam castaneo variegatā, versū apicem acuminatā, sublevis costatā; aperturā aureā, margine crassissimo, columellā vallidē biplicatā, inter ploris profundē sinuata.*

THE MUMMY PUPA. Shell oblong-chrysalis-shaped, bluish, sometimes mottled with chestnut, acuminated towards the apex, rather lightly ribbed; aperture golden; margin very thick, columella with two strong plaits, deeply situated between the plaits.

BRUGUENE. Enc. Met.

Pupa sculpta, Poey (var.)

Pupa mumiola? Pfeiffer.

Hab. Cuba.

Species 4. (Mus. Brit.)

PUPA PROTEUS. *Pup. testā latissimā, breviter cylindrica, subtruncatā, caerulea, solidā; anfractibus decenis, superioribus depresso, alteris costis crassis subdistantibus munitis; aperturā latā, intūs aurea, margine crasso, albido, supra columellam implicato.*

PUPA.—PLATE I.

THE PROTEUS PUPA. Shell very wide, shortly cylindrical, somewhat truncated, bluish, solid; whorls ten, upper depressed, others strengthened with slightly distant strong ribs; aperture broad golden within, margin thick, whitish, with a plait above the columella.

GUNDLACH MS. Pfr. VI. p. 291.

Pupa dimidiata, Pfeiffer (olim).

Hab. Cuba.

Species 5. (Mus. Brit.)

PUPA CHRYSALIS. *Pup. testā elongato-chrysalidiformi, fulvā castaneo-marmoratā; costis distantibus, validis; spirā obtusā; unfractibus undecenis, inferioribus altis, rectilateratis; aperture muragine auriformi, albo. rotunda, columellā edentulā.*

THE CHRYSALIS PUPA. Shell elongated, chrysalis-shaped, fulvous, marbled with chestnut; ribs distant, strong; spire obtuse; whorls eleven, lower high, straight-sided; margin of aperture ear-shaped, white, rounded; columella without teeth.

BECK, Pfeiffer, Mon. II. p. 314.

Hab. Cuba.

Of a more straight and lengthened cylindrical form than Pupa Mumia and without plaits on the columella.

Species 6. (Mus. Brit.)

PUPA INCRASSATA. *Pup. testā obesā, cylindrica, subtruncatā, subcaerulea; costis subobliquis, distanti. bus, levibus; aperturā auriformi, flexuosa; margine albido, crassissima; labio externo supernè flexuoso, labio interno validè biplicato.*

THE THICKENED PUPA. Shell obese, cylindrical, slightly truncated, bluish; ribs rather oblique, distant, smooth; aperture auriform, flexuous; margin whitish, very thick; outer lip flexuous above, inner lip with two strong folds.

SOWERBY.

Hab. Cuba.

The writer having figured this shell under the name of *P. tumida*, and finding that name already used for another species, is obliged to re-name it. It resembles *P. protens*, but its chief peculiarity is a much thickened and flexuous margin.

Species 7. (Mus. Brit.)

PUPA UVA. *Pup. testā chrysalidiformi, caerulea, crassicostatā; unfractibus undecenis, rectilateratis; aperturā subovatā, aurea, muragine interno vix plicato.*

THE GRAPE PUPA. Shell chrysalis-shaped, bluish, thick-ribbed; whorls eleven, straight sided; aperture subovate, golden, inner margin scarcely plaited.

LINNEUS. Syst. Nat.

Hab. Guadalupe.





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P U P A.

PLATE II.

Species 8. (Mus. Brit.)

PUPA MICROSTOMA. *Pup. testū brevi, acuminatā, tenuiter liratā, griseā, fusco nebulatā; apice attenuato, flavidō; aperturā parvā, intus castaneā, margine crasso, rotundo, plicā superiori crasso, plicā columellarī parvā.*

THE SMALL-MOUTHED PUPA. Shell short, acuminate, finely ridged, grey, clouded with brown; apex attenuated, yellowish; aperture small, chestnut within, margin thick, rounded; upper plait thick, columellar plait small.

PFEIFFER. Monographia Heliceorum, vol. iv. p. 659.

Hab. Haiti.—Porto Rico.—Cuba.

Species 9. (Mus. Sowerby.)

PUPA ANTONI. *Pup. testū profundē rimatā, umbilicatā, brevi, obtusa, tenuiter liratā, griseo-rubescēti marmoratā; aperturā majuscūla, intus castanē, margine albo, subexpanso, plicis duabus parvī armato.*

ANTON'S PUPA. Shell deeply notched, umbilicated, short, obtuse, finely ridged, marbled with reddish-grey; aperture rather large, chestnut within, margin white, rather expanded, armed with two small plaits.

KÜSTER. Pfeiffer, Mon. III. p. 539.

Hab. Barbice.

Species 10. (Mus. Sowerby.)

PUPA MARMORATA. *Pup. testū brevi, lavigatā, angustē rimatā fulvā, flammis undisque albidi variegatā; apice pyramidato; aperturā magnā, suprad columellam uniplicatā.*

THE MARBLED PUPA. Shell short, smooth, narrowly notched; fulvous, variegated with white flames and waves; apex pyramidal; aperture large, with a single plait above the columella.

PFEIFFER. Monograph. III. 323.

Hab. Cuba.—Bahamas.

Very beautifully ornamented with enamelled white markings over a pinky-fawn ground.

Species 11. (Mus. Sowerby.)

PUPA INFANDA. *Pup. testū cylindricā, profundē rimatā; umbilicatā, solidā, latā; anfractibus superioribus ferè lavigatis, ultiinis costis regularibus, subdistantibus, sculptis; aperturā magnā, intus fulvā, suprad columellam plicā dentiformi parvo munīta.*

THE UNDESCRIPTED PUPA. Shell cylindrical, deeply notched, umbilicated, solid, white, broad; upper whorls almost smooth; the last sculptured with regular ribs; aperture large, fulvous within; provided with tooth-like plait above the columella.

SHUTTLEWORTH. Pfeiffer, Mon. VI. vol. vi. p. 288.

Pupa decumana, Poey.

Hab. Cuba.

This shell differs from *Pupa numia* in the first whorls being partially denuded of ribs.

Species 12. (Fig. a, b, Mus. Brit.)

PUPA ZEBRA. *Pup. brevissimā, rimatā, tenuiliratā, fulvescenti, strigis undulatis fuscis longitudinaliter ornatā; spirā versū apicem pyramidatā, aperturā parvā, labio interno angusto, uniplicato, columellā obliquā uniplicatā.*

THE ZEBRA PUPA. Shell very short, notched, finely ridged, rather fulvous, longitudinally ornamented with undulated brown stripes; spire pyramidal towards the apex, aperture small, inner lip

PUPA.—PLATE II.

narrow, with one plait, columella obliquely one-plaited.

WEINLAND. MS. Brit. Mus.

Hab. Bahamas.

Species 13. (Mus. Brit.)

PUPA MULTICOSTATA. *Pup. testū oblongā, albo-griseo-scenti, rimatā, liris validis, crebris, longitudinaliter sculptā; aperturā subquadratā, marginē crasso, intus castaneo, columellā latā, obliquè uniplicatā, labio interno supra columellam uniplicato.*

THE MANY-RIBBED PUPA. Shell oblong, greyish-white, notched, sculptured longitudinally with strong close ridges; aperture rather square, margin thick, chestnut within, columella broad, obliquely single-plaited, inner lip with one plait above the columella.

KÜSTER. Pfeiffer, Mon. II. p. 323.

Hab. Cuba.

Species 14. (Mus. Brit.)

PUPA CRASSILABRIS. *Pup. testū subcylindricā, obtusā, roseo-albidā, fusco-nebulatā, tenuiter liratā; aperturā subauriformi, biplicato, marginē duplicito.*

THE THICK-LIPPED PUPA. Shell subcylindrical, obtuse, pinky-whitish, clouded with brown, finely ribbed; aperture somewhat auriform, two plaited, margin doubled.

SHUTTLEWORTH — ?

Hab. India.

Species 15. (Mus. Brit.)

PUPA MARTENSI. *Pup. testū cylindricā, rimatā, tenuisimè liratā, albida, fusco nebulatā; apice obtuso; aperturā magnā, auriformi, biplicatā, margine crasso.*

MARTEN'S PUPA. Shell cylindrical, notched, very finely ridged, whitish, clouded with brown; apex obtuse; aperture large, ear-shaped, with two plaits, margin thick.

WEINLAND. Malak. Bl. ix. 1862.

Hab. Bahamas.

Species 16. (Mus. Sowerby.)

PUPA MARTINIANA. *Pup. testū brevissimā, obscurè roseā, breviter profundè rimatā, subpyramidalē liris distantibus, subarcuatīs, propè suturam nodulosis sculptā; aperturā subauriformi, marginē crasso, supernè angulato, labio interno ad anfractum ultimum uniplicato, columellā vix plicatā.*

MARTIN'S PUPA. Shell very short, dull rose, shortly, deeply notched, subpyramidal; sculptured with distant ridges, nodulous near the suture; aperture rather auriform, margin thick, angular above, inner lip with a plait on the last whorl, columella scarcely plaited.

KÜSTER. Pfeiffer, Mon. II. p. 317.

Hab. — ?

This shell is remarkable for having a little knob on the top of each rib at the suture.





20

19

21



18c



22b

21

P U P A.

PLATE III.

Species 17. (Mus. Brit.)

PUPA DETRITA. *Pup. testā lirigatā, tenui, cylindraceā, profundē rimatā, pallidā; apice obtuso, flavescenti; aperturā anticē obliquē productā; labio interno tenui, plieū minutā munito, columellā rectiōserulā.*

THE WORN PUPA. Shell smooth, thin, cylindrical, deeply notched, pale; apex obtuse, yellowish; aperture anteriorly obliquely produced; inner lip thin, provided with a very small plait, columella rather straight.

SIR TITTLEWORTH. Pfeiffer Mon. VI. as *ineana* var.
Hab. Florida.

Species 18. (Fig. a. b. Mus. Sowerby.)

PUPA STRIATELLA. *Pup. testā brevi, pallidē griseo-creanti vel subroseā, fusco-rubescenti variegatā; tenueri et regulariter liratā, profundē rimatā; labio interno plicā dentiformi validā munito, columellā profundā, breci, uniplicatā.*

THE SMALL-STRRIATED PUPA. Shell short, pale greyish or slightly pink, variegated with reddish brown, finely and regularly ridged; deeply notched; inner lip provided with a strong tooth-like plait, columella deep, short, with one fold.

FERRUSSAC. Pfeiffer Mon. VI. p. 292.
Hab. Cuba, Haïti, Porto Rico, &c.

Species 19. (Mus. Sowerby.)

PUPA SAGRAIANA. *Pup. testā brevi-fusculā, sublævigatā, griseo-rubescenti, rubro-fuscescenti marmoratā, profundē rimatā; aperturā auriformi, magnā, margine crasso, labio interno et columellā uniplicatis.*

SAGRA'S PUPA. Shell rather short, rather smooth, greyish-red marbled with brownish-red, deeply

notched; aperture auriform, large, margin thick, inner lip and columella with one plait each.

PFEIFFER. Monographia Helicorum II. p. 322.
Hab. Cuba.

Species 20. (Mus. Sowerby.)

PUPA MARITIMA. *Pup. testā pallidē crenulatā, subpyramidalitā, distanter, leviter costatā, inter costas planulatā, longē rimatā, profundē umbilicatā; aperturā intus griseo-fulvā, profundā, subtrigonā, margine crasso, latē reflexo, columellā profundissimā, intus leviter plicato, labio interno tenuiter uniplicato.*

THE MARITIME PUPA. Shell pale bluish, rather pyramidal, distantly, lightly ribbed, flattened between the ribs; with a long notch, and deep umbilicus; aperture fulvous grey within, deep, almost trigonal, margin thick, broadly reflected, columella very deep, slightly plaited within; inner lip with a thin plait.

PFEIFFER. Monographia II. p. 322.
Hab. Cuba.

Species 21. (Mus. Sowerby.)

PUPA RUDIS. *Pup. testā obesā, albida, tonui, costellis acutis, distantibus liratā, obliquē rimatā; aperturā magnā, suprà infrāque acuminatā, margine angusto, reflexo, labio interno plicā elongatā validā munito; columellā vix plicatā.*

THE ROUGH PUPA. Shell obese, whitish, thin, ridged with sharp, distant riblets, obliquely notched; aperture large, acuminated above and below, margin narrow, reflected, inner lip provided with an elongated strong plait, columella scarcely plaited.

PFEIFFER. Monographia Helicorum IV. 657.
Hab. — ?

PUPA.—PLATE III.

Species 22. (Mus. Brit.)

PUPA IOSTOMA. *Pup. testū cylindricā, latā, distanter leviter liratā, cæruleo-albidā, rubro-purpurascēti marmoratā et strigatā, anfractibus altis, rectis, apice acuminato, aperturā crassā violacea, biplicatā.*

THE PURPLE-MOUTHED PUPA. Shell cylindrical, broad, distantly lightly ridged, bluish-white marbled or striped with reddish-purple, whorls elevated, straight, apex acuminate, aperture thick, violet, two-plaited.

PFEIFFER. Monographia Heliceorum IV. p. 656.

Hab. Cuba.

The violet colour of the interior of the mouth is very peculiar.

Species 23. (Fig. *a, b*, Mus. Brit.)

PUPA ALVEARIA. *Pup. testū subcylindricā, angustā, griseo-rosescēti, vel purpureo inter costas, versū apicem attenuatā, acuminatā, costis crassiunculis numerosis; aperturā brevi, subrotundā, labio interno aequā et minutiū uniplicato.*

THE BEEHIVE PUPA. Shell cylindrical, narrow, grey-

ish-pink or purple between the ribs, attenuated towards the apex, acuminate, with rather thick, numerous ribs, aperture short, rather round, inner lip with a sharp, small plait.

DILWYN (Turbo). Pfeiffer II. 315.

Bulinus fusus, Bruguière.

Pupa fusus, Lamarck.

Pupa rubicunda, Mente.

Hab. Bahamas.

Species 24. (Mus. Brit. and Sowerby.)

PUPA WEINLANDI. *Pup. testū elevatā, cylindricā, tenuiter liratā, pallidè rubescenti, fuscō strigatā; apice attenuato, anfractu ultimo obliquè breviter rotato; aperturā magnā, int̄is fusa, labio interno vix plicato.*

WEINLAND'S PUPA. Shell elevated, cylindrical, finely ridged, pale reddish, striped with brown, apex attenuated; last whorl obliquely, shortly notched; aperture large, brown within, inner lip scarcely plaited.

KERR, MS. Pfeiffer, Mon. VI. p. 290.

Hab. Crooked Island, Bahamas.





P U P A.

PLATE IV.

Species 25. (Mus. Brit.)

PUPA SECALE. *Pup. testā parvā, tenui, subcylindricā, versū apicem attenuatā, cornēd, vel fusco-purpurascenti, obliquā rimatā; aperturā subquadratā; margine interno quinquepliato.*

THE RYE PUPA. Shell small, thin, subcylindrical, attenuated towards the apex, horny or purplish-brown, obliquely notched; aperture rather square, inner margin five-plaited.

DRAPARNAUD. Mol. Fluv. et Ter.

Pupa juniperi, Fleming.

Helix cylindrica, Stüder.

Hab. Europe.

Species 26. (Mus. Theobald.)

PUPA FERTOIDES. *Pup. testā pareā, pallidā, cylindricā, tenuiter liratā, suprā medium tumidiūsculā, rimatā, aperturā subauriformē; labio inferno unipliato, labio externo suprā medium sinuatim contracto.*

THE FURTIVE PUPA. Shell small, pale, cylindrical, finely ridged, rather more tumid above the middle, notched, aperture somewhat auriform; inner lip single-plaited, outer lip sinuously contracted above the middle.

THEOBALD. Journ. Asiatic. Soc. Beng. 1870.

Hab. Shan Provinces.

A little like *P. Blanfordi*, but not so tapering downwards, and quite different in the plaits of the mouth.

Species 27. (Mus. Sievers.)

PUPA PHASIANUS. *Pup. testā albā, parvā, brevi, laevi, latā rimatā, versū apicem subattenuatā; anfractibus quinque, ultimo magno; aperturā subquadratā, margine interno labiis sexpliato.*

THE PHEASANT PUPA. Shell white, small, short,

smooth, broad, a little attenuated towards the apex; whorls five, the last large, notched; aperture rather square, inner margin of the lips with six plaits.

DUBOIS. Journ. de Conch. 1873.

Hab. Central Russia.

Species 28. (Mus. Gassies.)

PUPA LIFOUANA. *Pup. testā minutā, latā, latē umbilicatā, tenuissimē et regulariter striatā, nitenti, cornēd, ultimo anfractu ad medium fusco unifasciato; suturā minutissimē crenulatā, anfractibus 6, superioribus brevibus, inferioribus altis; aperturā obliquā, quadriplicatā, plicis parietalibus, una superiori maximā, alterā parvā; plicis columellarī et labiali parvis.*

THE LIFOU PUPA. Shell minute, broad, broadly umbilicated, very finely and regularly striated, shiny, horny, and with a brown band in the middle of the last whorl; suture very finely crenulated; whorls 6, upper ones short, lower ones high; aperture oblique, with four plaits; parietal plaits, one superior, very large, the other small; columellar and labial plaits small.

GASSIES. Fauna Caledonica, Pt. 2, p. 98. 1871.

Hab. Lifou, of the Loyalty Group.

Species 29. (Mus. Sievers.)

PUPA SIEVERSI. *Pup. testā cylindricā, angustā, pallidissimē fulvā, anfractibus 7, ultimo alto, rimato, subperforato, medianis subæqualibus; apice obtuso; aperturā trigonā, triplicatā.*

SIEVERS' PUPA. Shell cylindrical, narrow, very pale fulvous, whorls 7, the last high, notched. Slightly perforated, middle ones nearly equal; apex obtuse; aperture trigonal, three-plaited.

MOUSSON. Journ. de Conchyliologie, Pl. VII. f. 6.

Hab. Alluvial sands of Asia.

PUPA.—PLATE IV.

Species 30. (Mus. Hanley.)

PUPA BLANFORDI. *Pup. testū cylindricā, albida, rimatā, prope apicem ventricosā, infūrū attenuatā, tenūtē liratā, anfractibus 8, ultimo angustato; aperturā subquadratā, plīcis parietali, columellarī et labiali mediocribus.*

BLANFORD'S PUPA. Shell cylindrical, whitish, notched, ventricose near the apex, attenuated below, finely ridged, whorls 8, the last narrow; aperture rather square, parietal, columellar and labial plaits middle-sized.

GODWIN AUSTIN. Proc. Zool. 1872.

Hab. Khasi Hills.

Species 31. (Fig. *a, b*, Mus. Crosse.)

PUPA MARIEL. *Pup. testū minutā, fuso-cornatā, brevi, inflatā, tenui; anfractibus 4, ultimo subumbilicato, suprà medium subcontracto; aperturā obliquā, marginē reflexo, tenui, suprà medium simulim contracto, plīcis parietalibus duabus, parris.*

MARIE'S PUPA. Shell minute, brown-horny, short, inflated, thin; whorls 4, last slightly umbilicated, a little contracted above the middle; aperture oblique, margin reflected, thin, sinuously contracted above the middle, parietal plaits two, small.

CROSSE. Journ. Conch. 1871, p. 202.

Hab. Environs of Noumea.

Species 32. (Mus. Hutton.)

PUPA LAPIDARIA. *Pup. testū parca, cornatā, alti, rimatā, cylindrica, leviter striatā, anfractibus 7, inferioribus altis, rectis, subequalibus, apice obtuso; aperturā subovatā, obliquā, anticē productā, plīcis 4, parietali elongato, valido, columellarī et labiali superiori parvis, inferiori elongato.*

THE STONY PUPA. Shell small, horny, high, notched, cylindrical, smoothly striated, whorls 7, lower

ones high, straight, nearly equal, apex obtuse; aperture rather oval, oblique, anteriorly produced, plaits 4, parietal one elongated, strong, columellar and upper labial small, lower elongated.

HUTTON. Asiatic Society of Bengal, 1870, p. 400.

Hab. Afghanistan.

Species 33. (Mus. Hanley.)

PUPA BATHYODON. *Pupa testū minutā, levigatā, fuscā, breviasculatā, subpyramidalatā, spirā versis apicem attenuatā, anfractibus 5; rotundis, ultimo rotato, aperturā obliquā, subovatā, marginē rubro, plīcis una parietali, duabus columellaribus, duabus labialibus; columellā obliqua.*

THE DEEP-TOOTHED PUPA. Shell minute, smooth, brown, rather short, rather pyramidal, spire attenuated towards the apex, whorls 5, rounded, last notched, aperture oblique, rather ovate, margin red, plaits one parietal, two columellar, two labial; columella oblique.

BENSON. Annals of Natural History, 1848.

Hab. Nerbudda.

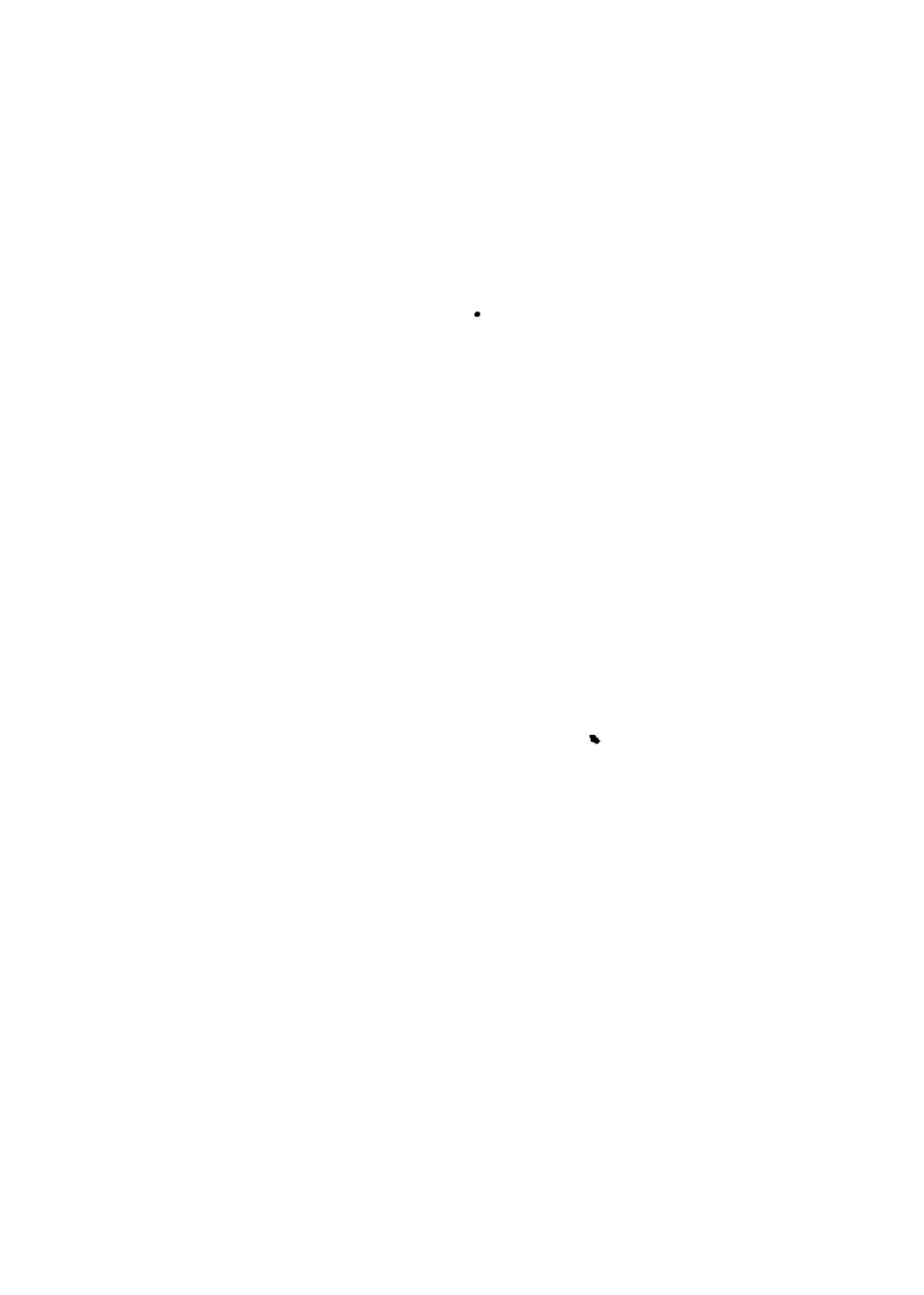
Species 34. (Mus. Gassies.)

PUPA OBSTRUCTA. *Pup. testū albida, minutā, subovatā, loci, leviter umbilicata, anfractibus 5, convexis, ultimo inflato, alto; apice pyramidali, obtuso; aperturā subtrigonā, plīcis parietati, magnis, perpendiculari, validis.*

THE OBSTRUCTED PUPA. Shell whitish, minute, subovate, smooth, slightly umbilicated, whorls 5, convex, last inflated, high; apex pyramidal, obtuse; aperture subtrigonous, parietal plait large, perpendicular, strong.

GASSIES. Fauna Caledonica, 1871, p. 97.

Hab. Environs of Noumea and Conception.





35.



36.



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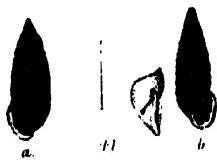
40.



41.



42.



a.

b.

c.



44.

P U P A.

PLATE V.

Species 35. (Mus. Hanley.)

PUPA MICROTRAGUS. *Pup. testā brevi, post labium arcuatum rimatā, cornēd, tenui, semipellucida; ultimo anfractu elevato; aperturā albā, intus contractā; labio subplanulato; dentibus suprā columellam unā, perpendiculari, acutis; unā ad columellam sursum acclivi, unā ad marginem internum labii extēni lotē planulatā.*

THE DRAG-NET PUPA. Shell short, notched in a curve behind the lip, horny, thin, semi-pellucid; last whorl elevated; aperture white, contracted within; lip rather flattened; teeth, one above the columella perpendicular, acute; one on the columella sloped upwards; one on the inner margin of the outer lip, broadly flattened.

PARREYS (Bulimus). Pfr. Bl. Malak. 12, 1865.

Hab. Greece.

Species 36. (Mus. Hanley.)

PUPA TRICUSPIS. *Pup. testā tenui, cornēd, breviter rimatā, brevi, anfractibus sex, ultimo subelevata, aperturā latiūscula, margine tenui, albo, dentibus tribus conspicuis armato.*

THE THREE-SPEAR PUPA. Shell thin, horny, shortly notched, short, whorls six, the last rather raised, aperture rather broad, margin thin, white, armed with three conspicuous teeth.

ROSSMÄSLER (Bulimus). Pfr. Mon. Helicorum — 1868, p. 68.

Hab. Asia Minor.

This species has been placed with *Pupa Bergerii*, as a variety, but is much shorter, with fewer whorls and a thinner peritreme.

Species 37. (Mus. Hanley.)

PUPA BERGERII. *Pup. testā elati, subventricosā, albā vel purpureā, breviter rimatā, anfractibus 8, gradatim crescentibus; aperturā albā, auriformi, supernè acuminatā, margine crasso, dentibus tribus crassis acutis armato.*

BERGER'S PUPA. Shell elevated, rather ventricose, white or purple, shortly notched, whorls 8, gradually increasing; aperture white, ear-shaped, pointed above, margin thick, armed with three thick and sharp teeth.

ROTHMAN (Bulimus). Pfeiffer, Monographia Heli- ceorum, 1868, p. 68.

Chondrus Bergerii. Mousson.
Hab. Southern Europe.

See observation on the preceding species.

Species 38. (Mus. Hanley.)

PUPA SULCATA. *Pup. testā ventricosā, crassiūscula, cornēd; spirā obtusā, trochiformi, anfractibus aequaliter crescentibus, obliquè liratis, suturā profundā; ultimo anfractu planiūsculo, transversè rimato, aperturā obliquè producta; supernè subquadrato, margine crasso, reflexo; columellā reciūscula.*

THE GROOVED PUPA. Shell ventricose, rather thick, horny; spire obtuse, trochiform, whorls equally increasing, obliquely ridged, suture deep; last whorl rather smooth, transversely notched, aperture obliquely produced, rather square above, margin thick, reflected; columella rather straight.

BRUGUÈRE (Bulimus). Enc. Mel.

Gibbus Gonidomus. Adams.

Hab. Mauritius.

Species 39. (Mus. Hanley.)

PUPA ELATA. *Pup. testā subsusiformi, purpureo- cornēd; spirā elati, anfractibus 7, lente cres- centibus, convexiūsculis, ultimo elato, cix rimato; aperturā suboratā, margine albido, crassiūsculo, subplanulato, dentibus duobus, parvis, uno suprā columellam acuto, uno ad marginem internum labii extēni elevato; columellā edentulā.*

THE ELEVATED PUPA. Shell subsusiform, purplish-horny; spire elevated, whorls 7, slowly increasing, rather convex, the last raised, scarcely notched; aperture rather oval, margin whitish, rather thick, rather flattened, teeth two, small, one above the columella, sharp; one on the inner margin of the outer lip, elevated; columella without teeth.

SCHMIDT. — ? MS.

Hab. Carinthia.

This species belongs to the 'Chondrus' group.

PUPA.—PLATE V.

Species 40. (Mus. Hanley.)

PUPA QUADRIDIENS. *Pup. testā elatā, subcylindricā, purpureo-fuscā, tenui, angustā, sinistrā; spirā elevatā, anfractibus 8, rectiūsculis, lente crescentibus; aperturā brevi, subtrigonā; margine albo, planulato; dentibus labii externi uno, anfractūs ultimi uno, columellāe duobus.*

THE FOUR-TOOTHED PUPA. Shell raised, subcylindrical, purple-brown, thin, narrow, sinistral; spire raised, whorls 8, rather straight, slowly increasing; aperture short, rather trigonal; margin white, flattened; teeth, one on the body whorl, one on the outer lip, and two on the columella.

MÜLLER (Pupa). Pfr. (Bulimus), Mon. Hel. 1868, p. 69. Genus 'chondrala.'

Hab. Southern Europe.

Species 41. (Mus. Hanley.)

PUPA PAGODA. *Pup. testā solidiūsculā, viridiūsculā, castaneo-lineatā, tenuiter liratā, ventricosā, latā; spirā trochiformis; ultimo anfractū ad suturam gibba, tūm declivī, infū profundiē, longē et transversē rimato; aperturā albā, obliquē productā, subquadrate, margine incrassato, eleutero.*

THE PAGODA PUPA. Shell rather solid, greenish-brown, with chestnut lines, finely ridged, ventricose, broad; spire trochiform; last whorl gibbous at the suture, then sloped downwards, with a deep, long, and transverse notch below; aperture white, obliquely produced, rather square, margin thickened, toothless.

FERRUSSAC (Helix), Pfr. (Pupa), Mon. Hel. 1868, p. 287.

Helix concamerata, Wood.

Pupa Idolea. Mentse.

Hab. Mauritius.

Belonging to the 'Gibbus' or 'Gonidomus' section.

Species 42. (Mus. Hanley.)

PUPA VARIABILIS. *Pup. testā elongato-cylindricā, purpureo-fuscā, solidiūsculā, spirā elevatissimā, anfractibus 13, rectiūsculis, lente crescentibus, ultimo transversē rimato; aperturā magnū; margine albo, subincrassato, labio externo suprā medium tumido, plicā anfractūs ultimi minutā, plicis columellaribus dualibus, minutis, plicis internis dualibus, lamelliformibus.*

THE VARIABLE PUPA. Shell elongated-cylindrical, purple-brown, rather solid, spire much raised, whorls 13, rather straight, slowly increasing, the last transversely notched; aperture large; margin white, rather thickened, outer lip tumid above the middle, fold of the body whorl minute, columellar folds two, small, internal folds two, lamelliform.

DRAPARNAUD. Coq. Fluv. et Terr.

Helix mutabilis. Ferrussac.

Pupa multidentata. Olivier.

Hab. France, Spain, Greece.

Species 43. (Mus. Hanley.)

PUPA QUINQUEDENTATA. *Pup. testā subfusiformi, elongatā, grisea, fusco-variegatā, levigatā; spirā elevatissimā, medio subinflatā, anfractibus 10, convexiūsculis; ultimo obliquū rimato; aperturā ovatā, plūcis interīis tribus, plicā columellāe unā, plicā anfractūs ultimi parvā, margine tenui.*

THE FIVE-TOOTHED PUPA. Shell rather fusiform, elongated, grey, variegated with brown, smooth; with elevated spire; a little inflated in the middle; whorls ten, rather convex; the last obliquely notched; aperture ovate, interior folds three, columellar fold one, fold on the body-whorl small; margin thin.

BORN. —? Pfr. Mon. Hel.

Bulimus similis. Bruguière.

Jamimia quinquelamellata. Risso.

Hab. Southern Europe.

Species 44. (Mus. Hanley.)

PUPA FRUMENTUM. *Pup. testā parvā, subfusiformi, fuscā, levigatā; spirā elevatā, medio subinflatā; anfractibus 11, lente crescentibus; ultimo longē rimato; aperturā latiūsculā, columellā profundā, latissimā, intū bidentatā; dente anfractūs ultimi parvo, plicis internis quatuor, lamelliformibus, ad doreum apparentibus.*

THE CORN PUPA. Shell small, rather fusiform, brown, smooth; spire elevated, a little inflated in the middle; whorls 11, slowly increasing; the last with a long notch; aperture rather broad, columella deep, very broad, with two interior teeth; tooth of the body whorl small, internal folds four, lamelliform.

DRAPARNAUD. Coq. Fluv. et Ter.

Pupa curta. Potiez et Michaud.

Hab. Southern Europe.





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53.



P U P A.

PLATE VI.

Species 45. (Mus. Hanley.)

PUPA SEPTEMDENTATA. *Pup. testū brevi, ventricosā, albā, levigatā; spirā brevissimā, anfractibus 4, rapide crescentibus, angustis, convexis sculis; ultimo rectiusculo, elato, post labium internum obliquè breviter rimato; aperturā brevi, subovatā, margine interno septemdentato, margine externo acuto.*

THE SEVEN-TOOTHED PUPA. Shell short, ventricose, white, smooth; spire very short, whorls 4, quickly increased, narrow, rather convex; the last rather straight, elevated, with a short oblique notch behind the inner lip; aperture short, rather ovate; inner margin seven-toothed, outer margin sharp.

ROTHMAN. —? Pfr. (Bulimus). Mon. Hel. 1868, p. 70.

Hab. Syria.

Belonging to the 'Chondrus' group of species.

Species 46. (Mus. Hanley.)

PUPA GULARIS. *Pup. testū parvā, fuscā, levigatā, cylindrica; spirā obtusā, elongatā, anfractibus 7, medianis eis crescentibus; ultimo profundè rimato, aperturā brevi, angustatā, labio externo intus incrassato, columellā uniplicatā, anfractu ultimo supra columellam pliā elongatā munita.*

THE THROAT PUPA. Shell small, brown, smooth, cylindrical; spire obtuse, elongated, whorls 7, middle ones scarcely increasing; last deeply notched; aperture short, narrow, outer lip thickened within, columella with one plait; last whorl provided with one plait above the columella.

ROSSWÄSLER. Pfr. Mon. Hel. 1868, vol. 6, p. 305.
Hab. Transylvania, &c.

Species 47. (Mus. Hanley.)

PUPA TRIDENS. *Pup. testū subovatā, pallidissimè rubescenti, spirā elevatā, anfractibus 6, superioribus 5 angustis, subinflatā, ultimo elevato, breviter rimato; aperturā subovatā, margine reflexo, subplanulata, intus tridentata.*

THE THREE-TOOTHED PUPA. Shell subovate; very pale reddish, spire raised, whorls 6, upper 5 narrow, rather inflated, last raised, with a short notch; aperture rather oval, margin reflected, rather flattened, three-toothed within.

MÜLLER (Helix), Pfr. (Bulimus). Mon. Hel. 1868, vol. 6, p. 69.

Hab. Central Europe.

Belongs to the 'Chondrus' group.

Species 48. (Mus. Hanley.)

PUPA PALANGA. *Pup. testū elongato-cylindrica, epidermide corneo indutā, solidā, regulariter obliquè liratā; spirā elevatā, obtusissima; anfractibus 7, medianis lentè crescentibus, ultimo elongato, breviter rimato; aperturā subquadratā; peritreme continuo, margine rotundo, super anfractum ultimo uniplicato.*

THE CLUB PUPA. Shell elongated, cylindrical, covered with horny epidermis, solid, regularly obliquely ridged; spire elevated, very obtuse; whorls 7, the middle ones slowly increasing, last elongated, shortly notched; aperture rather square; peritreme contiguous, margin rounded with a single tooth upon the last whorl.

LESSON. —? Pfr. Mon. Hel. 1868, vol. 6, p. 293.

Pupa fusus, Potiez et Mich.

Hab. Isle of France.

Species 49. (Mus. Hanley.)

PUPA QUINQUEDENTATA. *Pup. testū pallidè fulcā, subovatā, levigatā; spirā elevatā, pupaformi, inflatā; anfractibus 7, lentè crescentibus, ultimo longè rimato; aperturā subtrigonā, margine albo, continuo, crasso, reflexo, ad suturam calloso; pliis dentiformibus quinque munita.*

THE FIVE-TOOTHED PUPA. Shell pale fulvous, subovate, smooth; spire elevated, pupa-shaped, inflated; whorls 7, slowly increasing, the last with a long notch; aperture subtrigonal, margin white, continuous, thick, reflected, callous at the suture, provided with five tooth-shaped plaits.

MUHLFELDT.—Pfr. Mon. Hel. 1868, vol. 6. (Bulimus), p. 68.

PUPA.—PLATE VI.

Pupa quinqueplicata. Potiez et Michaud.

Hab. Dalmatia.

A species of the 'Chondrus' or 'Chondrula' group, resembling *Pupa tricuspis*, but having a second small plait on the body whorl, and the same on the columella, making, with the large one on the outer lip, five tooth-like projections.

Species 50. (Mus. Hanley.)

PUPA SPRETA. *Pup. testū ovato-acuminatū, pallidē fulvā, tenuiter striatā; spirā elevatā, anfractibus 6, converiūsculis, tribus apicalibus rapidē crescentibus, medianis subequalibus, ultimo alto breviter rimato; aperturā breviūsculā, subauriformi, margine albo, crasso, reflexo, lato, subplanulato, intūs tridentatū.*

THE SLIGHTED PUPA. Shell ovate-acuminate, pale fulvous, finely striated; spire elevated, whorls 6, rather convex, the three of the apex quickly enlarging, the middle nearly equal, the last high, with a short notch; aperture rather short; rather auriform, margin white, thick, reflected, broad, rather flattened, three-toothed within.

REEVE (*Bulimus spretus*). Conch. Icon. Monog. *Bulimus*.

It was not observed, till after figuring this shell, that it had been admitted among the Bulimi. It belongs to the 'Chondrus' group.

Species 51. (Mus. Hanley.)

PUPA NEWTONI. *Pup. testū obliquū elongato-oratū, obliquū costatū, pallidē tutuā; spirā subtrochiformi, suturā profundū, anfractibus 6, converiūsculis, ultimo profundē rimato, anticē ascendentē; aperturā obliquū oblongā, margine breviter expanso, tenuiter rotundo, per callum super anfractum ultimum continuo, columellā obliquā.*

NEWTON'S PUPA. Shell obliquely elongated ovate, obliquely ribbed, pale yellowish; spire rather trochiform, with a deep suture; whorls 6, rather convex, the last with a deep notch, anteriorly ascending; aperture obliquely oblong, margin shortly expanded, thinly rounded, continued by a callus on the last whorl, columella oblique.

H. ADAMS (*Gibbus*). Proc. Zool. Soc. 1867, p. 305.
Hab. Stag's Cave in the Mauritius.

Thinner, narrower, and more finely sculptured than *Pupa sulcata*.

Species 52. (Mus. Hanley.)

PUPA DEALBATA. *Pup. testā oblongā, obtusissimè cylindricā, albū, tenuissimè striatā; spirā truncatā, anfractibus 5, superioribus inflatis; ultimo profunde rimato, subangustato; aperturā subquadratā, latā, anticē rotunda, posticē substruncatā.*

THE WHITENED PUPA. Shell oblong, very obtusely cylindrical, white, very finely striated; spire truncated, whorls 5, the upper ones inflated, last with a deep notch, rather narrow; aperture subquadrate, broad, anteriorly rounded, posterior rather truncated.

WEBBS. Pfr. Mon. Hel. 1868, vol. 6, p. 287.

Hab. Canary Islands.

Differing from '*P. modiolus*' (Sp. 54) in the enlargement of the upper whorls.

Species 53. (Mus. Hanley.)

PUPA SEDUCTILIS. *Pup. testā sinistrorsū pallidē, fulvā, cylindricā, laevi, spirā elevatā, anfractibus 8, medianis lentē crescentibus subequalibus, ultimo indistinctē rimato; aperturā brevi, margine crasso, intūs validē tridentatū.*

THE SEDUCTIVE PUPA. Shell pale fulvous, cylindrical, smooth, spire elevated, whorls 8, middle ones slowly increasing, nearly equal, last with an indistinct notch; aperture short, margin thick, strong, with three strong teeth within.

ZEIGLER.—Pfr. Mon. Hel. (*Bulimus*), 1868, vol. 6 (Bulimus), p. 69.

Bulimus Niso, Pfeiffer. Olim.

Hab. Central Europe.

Of the 'Chondrus' group.

Species 54. (Mus. Hanley.)

PUPA MODIOLUS. *Pup. testā breviter cylindricā, albidd, tenuiter obliquē striatā, spirā versūs apicem paulo attenuatā, anfractibus 6, apicalibus obtusis, ultimo profundē rimato; aperturā anticē ascendentē subquadratā, margine albo, subexpanso, levī.*

THE BUCKEL PUPA. Shell shortly cylindrical, whitish, finely obliquely striated, spire a little tapering towards the apex, whorls 6, apical ones obtuse, the last deeply notched; aperture raised in front, rather square, margin white, rather expanded, smooth.

FERRUSSAC.—Pfr. Mon. Hel. 1868, vol. 6, p. 293.

Hab. Isle of France (Bourbon).

Of the 'Gibbus' group, much shorter than '*Pupa palanga*'.





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P U P A.

PLATE VII.

Species 55. (Mus. Hanley.)

PUPA DOLICUM. *Pup. testā cornēd, tenuiter obliquē striatā, cylindricā, elatā; anfractibus decem, depresso, medianis subequalibus, superioribus subito contractis, ultimo longē rimato, spirā obtusā; aperturā super ultimum anfractum elevatā, margine albo; columellā biplicatā, ultimo anfractu prope labium externum uniplicato.*

THE TUN PUPA. Shell horny, finely obliquely striated, cylindrical, raised; whorls ten, depressed, middle nearly equal, the upper ones suddenly contracted, the last with a long notch, spire obtuse, aperture raised on the last whorl, margin white; columella two-plaited, last whorl with a single plait near the outer lip.

DRAPARNAUD. Mol. Terest. et Fluv.

Hab. Spain. France. Germany.

Species 56. (Mus. Hanley.)

PUPA MUSCERDA. *Pup. testā fusco-cornēd, levigatulā, altā, subcylindricā; anfractibus quinque, ultimo profundē rimato, penultimo inflato, superioribus gradatim attenuatis, apice obtuso; aperturā subquadratā, plicis tribus, unā ad medium labii interni, unā ad medium columellarū, unā intus aperturam locatis.*

THE MOUSE-DIRT PUPA. Shell horny-brown, rather smooth, elevated, subcylindrical; whorls five, last deeply notched, penultimate inflated, upper gradually attenuated, apex obtuso; aperture subquadrate, plaits three, one placed at the middle of the inner lip, one at the middle of the columella, and one within the aperture.

BENSON, v. Hanley's Indian Shells.

Hab. Ceylon.

Species 57. (Mus. Hanley.)

PUPA PLANGUNCULA. *Pup. testā albā, politā, pellucida, altā, cylindricā; anfractibus quinque, rectilatera-ribus, primo obtusissimā compresso, ultimo oblique rimato, umbilicato; suturā profundā; aperturā contractā, plicā columellarī crassā, quasi*

duplicatā, callo labii interā maximo, labio exterō concinuē marginato, medio sinuatim contracto, intus triplicato, plīciā medianā elongatā, acutā.

THE PUPPET PUPA. Shell white, polished, pellucid, elevated, cylindrical; whorls five, straight-sided, the first very obtusely compressed, the last obliquely notched, umbilicated; suture deep; aperture contracted, columellar fold thick, as it were duplicated, callus of the inner lip very large, outer lip neatly bordered, sinuously contracted in the middle, with three plaits inside, the middle plait elongated, acute.

BENSON, v. Hanley's Ind. Shells.

Hab. Kumah Hills.

Species 58. (Mus. Hanley.)

PUPA SCULPTA. *Pup. testā angustā, attenuatā, albida; anfractibus velo, apicalibus levigatis, medianis et inferioribus concinuē et crebrā plicatis, ad suturā crenulatis; ultimo rimato, aperturā latēscendā, plīciā suturali maximā, plīciā columellarī lamelliformi, plīciā internā validā.*

THE SCULPTURED PUPA. Shell narrow, attenuated, whitish; whorls eight, those at the apex smooth, middle and lower neatly and closely plaited, crenulated at the suture; the last notched; aperture rather broad, sutural plait very large, columellar plait lamelliform, inner plait strong.

BENSON, v. Hanley's Ind. Shells.

Hab. —? India.

Species 59. (Mus. Hanley.)

PUPA FILOSA. *Pup. parvā, fusco-nigrescenti; anfractibus quatuor, tribus inflatis, rapidē crescentibus, filoso-striatis, ultimo breviāsculo, breviter rimato; aperturā auriformi, quinque-plicatā.*

THE THREADED PUPA. Shell small, blackish brown; whorls four, three inflated, rapidly increased, with thread-like striae, the last rather short, shortly notched; aperture ear-shaped, five-plaited.

THEOBALD, Hanley's Indian Shells.

Hab. India.

PUPA.—PLATE VII.

Species 60. (Mus. Hanley.)

PUPA AVANICA. *Pup. pellucidū, parvū, levi, subcylindricū; anfractibus quinque, depressiūsculis, rotundis, convergissimis; ultimo breviter rimato, adscendentē; aperturā latiūscultā, callo crasso, magno, bifido, parietali prope suturam anfractūs ultimi, columellā biplicatā; labio externo albo, lato; plieis palatalibus tribus.*

THE AVA PUPA. Shell pellucid, small, smooth, subcylindrical; whorls five, rather depressed, round, very convex; the last shortly notched, ascending; aperture rather broad, with a thick, large, divided parietal callus near the suture of the last whorl, columella with two plaits, outer lip white, broad; palatal plaits three.

BENSON. Ann. and Mag. of Nat. Hist. Dec. 1863,
p. 424.

Hab. Ava. Blanford.

Species 61. (Mus. Hanley.)

PUPA MIMULA. *Pup. testū minutā, ventricosā, subviridi-corneā, tenuiter striatā, anfractibus quatuor, convergis, apicali obtusissimo, ultimo vix adscendentē, brevissimè rimato; aperturā subquadratā, acutissimè quinque-dentatā.*

THE MIMIC PUPA. Shell minute, ventricose, greenish-horn, finely striated, whorls 4, convex, the apical one very obtuse, the last scarcely raised, very shortly notched, very sharply five-toothed.

BENSON. Hanley's Indian Shells.

Hab. Ceylon.

The five tooth-like plaits, one on the body-whorl, two on the columella, and two on the outer lip, nearly meet in the middle.

Species 62. (Mus. —? Copied.)

PUPA SALEMANENSIS. *Pup. testū minutissimā, conicā, costellatā, anfractibus quinque, gradatione crescentibus, ultimo profundē rimato; aperturā auriformi, plieis dentiformibus, duabus parietalibus, una medio labii exteri prominenti armatā.*

SALEMAN'S PUPA. Shell very minute, conical, finely ribbed, whorls five, gradually increasing, the last deeply notched; aperture ear-shaped, armed with

tooth-like plaits, two parietal, one prominent on the outer lip.

BLANFORD (Eunea). Contributions to Ind. Mal. No. 2, 1861, p. 13, t. 2. f. 8.
Hab. India.

Species 63. (Mus. Brit.)

PUPA INDICA. *Pupū testā parvā, subcylindrica, cornēd, semipellucida, anfractibus quinque, leviusculis, tribus superioribus rapidē crescentibus, rotundis, penultimo et ultimo rectiūsculis, ultimo subelongato, breviter rimato; aperturā subquadratā, margine crasso, reflexo, quadridentata.*

THE INDIAN PUPA. Shell small, subcylindrical, horny, semipellucid, whorls five, rather smooth, the three upper ones quickly increased, rounded, the penultimate and last rather straight, the last rather long, with a short notch; aperture rather square, with thick, reflected four-toothed margin.

PFEIFFER. Mon. Helic. IV. 679.

Hab. Barrakpore, India.

Species 64. (Mus. —? Copied.)

PUPA CYLINDRELLOIDEA. *Pup. testā parvā, attenuatā, albā, apice obtuso, medio ventricosā, basi subcontracta; anfractibus 10, convergiūsculis, profundē suturatis; primis tribus levigatis, hyalinis, celeris confertim costulatis, ultimo infrā subcarinato, obliquè soluto, paulò descendenti; aperturā paulò obliquā, ovato-subrotundā, suprā propè angulum posteriorem lamelli obliquā, crassissimā, valde coarctata, labio externo supornā prope angulum uni-dentata.*

THE CYLINDRELLA-SHAPED PUPA. Shell small, attenuated, white, apex obtuse, middle ventricose, rather contracted at the base; whorls ten, rather convex, with a deep suture; the three first smooth, glassy, the rest closely ribbed, the last slightly keeled below, obliquely separated, a little descending; aperture a little oblique, ovate-rounded, with an oblique, very thick, strongly curved lamina above, near the posterior angle, outer lip with a single tooth on the outer lip above near the angle.

STOLICZKA. Journ. As. Soc. Bengal. Vol. XL
Pt. II. 1871.

Hab. Moulmein, India.



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74.

P U P A.

PLATE VIII.

Species 65. (Mus. Hanley.)

PUPA KOKIELLI. *Pup. testâ albidiâ, semipellucidâ, laevi, pyramidaliâ, brevi; anfractibus septem, rotundis, brevibus, primo obtuse depresso, ultimo ventricoso, profundè rimato et umbilicato; aperturâ valde adscendentî, parvâ, plieis dentiformibus super anfractum ultimum duabus, ad columellam unâ, ad marginem internum labii externi tribus majoribus, ceteris intermediiis parvis.*

KOKIELL'S PUPA. Shell white, semipellucid, smooth, pyramidal, short; whorls seven, rounded, short, the first obtusely depressed; last ventricose, deeply notched and umbilicated, aperture strongly ascending, small, with two tooth-like plaits on the body whorl, one at the columella, three larger on the inner edge of the outer lip, and others small, intermediate.

RÖSMÄSLER. Pfeiffer. Mon. Hel. II. 353.

Helix Moricandi, Fer.

Hab. Dalmatia.

A curious little shell, with the aperture turned up towards the suture of the last whorl.

Species 66. (Mus. Hanley.)

PUPA PROCERA. *Pup. testâ parvâ, cylindrica, fuscâ, levigata; apice obtuso, anfractibus sex, subrotundis, medianis subaequalibus, rectilateralibus, ultimo rimato; aperturâ, parvâ, subquadrata, plieis dentiformibus, unâ columellari, unâ super anfractum ultimum productâ, bifida.*

THE PROMINENT PUPA. Shell small, cylindrical, brown, rather smooth; apex obtuse, whorls six, rather rounded, the middle ones rather equal, straight-sided, the last notched; aperture small, rather square, tooth-like plaits, one columellar, one on the last whorl produced, double-pointed.

GOULD. Boit. Journ. IV. 3, p. 359.

Pupa rupicola von Pfcr.

Pupa carinata, Gould.

Hab. Baltimore, U. S.

Species 67. (Mus. Hanley.)

PUPA CONTRACTA. *Pup. parvâ, albâ, pellucidâ, brevi, pyramidali; anfractibus quinque, gradatim crescentibus, rotundis, ultimo longè rimato, apertura subtrigonâ, parvâ, plieis, una super anfractum ultimum prope suturam maximâ, laminari, tribus internis laminatis.*

THE CONTRACTED PUPA. Shell small, white, pellucid, short, pyramidal; whorls five, gradually increased, rounded, the last with a long notch, aperture subtrigonial, small plaits, one on the last whorl near the suture, very large, laminar, three internal, laminar.

GULMAN. Pfeiffer. Mon. Hel.

Hab. Vermont.

Species 68. (Mus. Hanley.)

PUPA MÜHLFELDTI. *Pupâ fusco-nigricanti, pyramidata, tenuisculâ, apice obtuso; anfractibus sex rotundis, gradatim crescentibus, obliquè tenuiter liratis, ultimo compresso-ventricoso, profundè rimato; aperturâ subtrigonâ, adscendentî, plieis super anfractum ultimum unâ conspicuâ, duabus columellaribus, duabus intus marginum externum elongatis.*

MÜHLFELDT'S PUPA. Shell blackish brown, pyramidal, rather thin, apex obtuse; whorls six, rounded, gradually increasing, obliquely finely ridged; the last compressed-ventricose, deeply notched; aperture subtrigonial, raised, one conspicuous plait on the last whorl, two on the columella, three lengthened within the outer lip.

KÜSTER. Pfeiffer. Mon. Hel.

Pupa quinque-plicata } Mühlfeldt.

Pupa obscura

Hab. Dalmatia.

Species 69. (Mus. Hanley.)

PUPA PHILIPPPI. *Pup. testâ parvâ, fuscâ, elongatâ, cylindrica, versus apicem attenuatâ, tenuissimâ striatâ; anfractibus quinque moderate convexis;*

PUPA.—PLATE VIII.

aperturā ovalā, angustā, plicis parietalibus super unfractum ultimum duabus, plicā palatiali infra medium ad labii externi marginem externum extensā.

PHILIPPI'S PUPA. Shell small, brown, elongated, cylindrical, attenuated towards the apex, very finely striated; whorls five, moderately convex; aperture ovate, narrow, with two parietal plait upon the body whorl, a palatal plait below the middle extended to the outer margin of the lip.

CANTRALINE. Pfeiffer, Mon. Hel. II. 350.

Pupa exigua (var.) Mousson.

Hab. Italy—Dalmatia—Isl. Corfu.

Species 70. (Mus. Hanley.)

PUPA AVENACEA. *Pup. testū elatā, fusca, attenuatā, unfractibus sex, moderatē convexa; aperturā ovalā, callo suturali valido, plicis super ultimum unfractum unā, ad columellam duabus, intus marginem internum labii externi tribus lamelliformibus intertum intrantibus.*

THE WHEAT PUPA. Shell raised, brown, attenuated; whorls six, moderately convex; aperture ovate, sutural callus strong, plates on the last whorl one, two on the columella, three within the inner margin of the outer lip, lamelliform, entering the mouth.

BRUGUIÈRE. Pfeiffer, Mon. Hel. II. 347.

Pupa avena, Draparnaud.

Pupa hordeum, Ferrussac.

Hab. Germany, Austria, Spain, France, &c.

Species 71. (Mus. — ? Copied.)

PUPA METABOLITA. *Pup. testū brevissimā, tenuiter costellatā, pallidē fulvā, cylindricā, spirā obtusā, unfractibus sex, ultimo profundè rimato; aperturā edentulā, vix obliquā, ovato-pyriformi; columellā subobliquā, labio externo vix reflexo.*

THE BLUNT-POINTED PUPA. Shell rather short, finely ribbed, pale fulvous, cylindrical, spire obtuse, whorls six, the last deeply notched; aperture without teeth, scarcely oblique, ovate-pyriform; columella rather oblique; outer lip scarcely reflected.

CROSSE (Gonospira), Journal de Conchyliologie, 1874, p. 224. Pl. VIII. f. 5.

Gonospira Dupontiana. Crosse (olim).

Hab. Isl. Rodriguez.

Shorter and more ventricose than *P. modiolus*, with larger aperture and a slight obliquity.

Species 72. (Mus. — ? Copied.)

PUPA RODRIGUEZENSIS. *Pup. testū profundè rimato; albā, subcylindricā, tenui, translucidā, tenuiter striatā, apice conico; unfractibus quinque, duabus ultimis cylindricis; aperturā subquadratā, edentulā; labio externo tenui.*

THE RODRIGUEZ PUPA. Shell deeply notched, white, rather cylindrical, thin, translucent, finely striated; apex conical; whorls five, the two last cylindrical; aperture rather square, toothless, outer lip thin.

CROSSE. Journ. de Conch. 1874, p. 224, Pl. VIII.

Fig. 4.

Hab. Isl. Rodriguez.

A likeness in miniature of the preceding, but much shorter and thinner, with the mouth straighter.

Species 73. (Mus. — ? Copied.)

PUPA CHLORIS. *Pup. testū flavidā, versus apicem rubescenti, brevi, cylindricā; apice conico, obtuso; unfractibus quinque, densè costellatis; aperturā obliquā, subquadratā, edentulā.*

THE GOLDEN PUPA. Shell yellow, becoming red towards the apex, short, cylindrical; apex conical, obtuse; whorls five, closely ribbed; aperture oblique, rather square, without teeth.

CROSSE (Gonospira), Journ. de Conch. 1874, f. 7.

Hab. Isl. Rodriguez.

Shorter and more solidly ribbed than the two preceding, with the aperture more oblique.

Species 74. (Mus. — ? Copied.)

PUPA SINUATA. *Pup. minutissimā fulvo-cornicā, laevi, brevi, ventricosā; unfractibus quatuor, rotundis, apicalibus duabus rapidè crescentibus, ultimis duabus inflatis, ultimo rimato; aperturā subquadratā, dentibus sex contractā et sinuatā.*

THE SINUATED PUPA. Shell very minutely fulvous-horny, smooth, short, ventricose; whorls four, rounded, the two apical quickly enlarged, the last two inflated, the last with a notch; aperture rather square, contracted and sinuated with six teeth.

MOUSSON (Vertigo), Crosse, Journ. de Conch. Pl. VIII.

Fig. 10.

Hab. Araxis.

Pupa Pl IX



75.



76.



77.

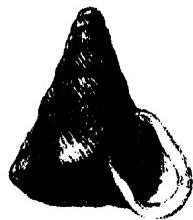
78.



79.



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84.

P U P A.

PLATE IX.

Species 75. (Mus. Hanley.)

PUPA RUPICOLA. *Pup. testā parvā, albida, elatā, semi-pellucidā, levi; anfractibus quinque, rotundis, versus apicem attenuatis, suturā profundā separatis, ultimo vix rimato; aperturā subtrigonā, plicias quatuor, unā super anfractum ultimum, unā columellarī, duabus internis ad labium externum terminantibus.*

THE STONE-DWELLING PUPA. Shell small, whitish, raised, semi-pellucid, smooth; whorls five, rounded, attenuated towards the apex, separated towards the apex; the last scarcely notched; aperture rather trigonal, plaits four, one on the body whorl, one columellar, two internal, terminating at the outer lip.

SAY. Pfr. Mon. Hel. II. 358.

Pupa carinata, Gould.

Pupa rupicola, Gould.

Hab. Florida, Baltimore, U.S.

Species 76. (Mus. Hanley.)

PUPA SIMPLEX. *Pup. testā parvā, breviāsculā, obtusā, fusa, apice obtuso; anfractibus sex, tenuiter striatis; ultimo infrā paulo contracto, profundè rimato; aperturā subtrigonā, callo suturali magno, lamelliformi, arcuātā, plicias columellaribus duabus elongatis, unā super anfractum ultimum internā, duabus palatialibus elongatis; labio externo supra medium sinuatim incrassato.*

THE SIMPLE PUPA. Shell small, rather short, obtuse, brown, apex obtuse; whorls six, finely striated, a little contracted below, deeply notched; aperture rather trigonal, sutural callus large, lamelliform, arched, two columellar plaits elongated, one on last whorl internal; two palatial, elongated; outer lip sinuously thickened.

GOULD (Vertigo), Pfr. Mon. Hel. II. 302.

Hab. Massachusetts.

Species 77. (Mus. Sowb.)

PUPA MUSCORUM. *Pup. testā parvā, cylindrica, brevi, lavigatā; apice obtusissimo, anfractibus 6, ro-*

tundis, suturā profundā separatis, ad apicem rapidè crescentibus, ceteris subæqualibus, ultimo breviter rimato; aperturā paulo adscendentē, dentato-plicatā vel edentulā, labio externo, ad marginem tenū, post marginem incrassato, extus albo.

THE FLY'S PUPA. Shell small, cylindrical, short, smooth; apex very obtuse, whorls 6, rounded, separated by a deep suture, rapidly increasing at the apex, others nearly equal, last shortly notched; aperture a little raised, with tooth-like plaits or without teeth; outer lip thin at the margin, thickened and white behind the margin outside.

LINNEUS.

Pupa marginata, Draparnaud.

Pupa unidentata and *bidentata*, Pfr.

Pupa Badia, Adams.

Hab. Germany, Spain, Great Britain.

Species 78. (Mus. Sowb.)

PUPA CALLIFERA. *Pup. testā breci, pyramidatā, obliquè costatā, obtusā; anfractibus quinque, tribus apicalibus rapidè crescentibus, ultimo profundè rimato; aperturā oblongāsculā, infrā rotundā; supra subquadratā, callo suturali super anfractum ultimum conspicuo; margine aperture subexpanso, reflexo.*

THE CALLUS-BEARING PUPA. Shell short, pyramidal, obliquely ribbed, obtuse; whorls five, three apical, rapidly increasing, last deeply notched; aperture rather oblong, rounded below, rather square above, with a conspicuous sutural callus upon the last whorl; margin of the aperture somewhat expanded, reflected.

MORELET, Sev. Conch. ii. 1860.

Hab. Mauritius.

Species 79. (Mus. Sowb.)

PUPA VERSIPELLIS. *Pup. testā oblongā cylindraceā, albā, obliquè costellatā; apice obtusissimo; anfractibus 6, tribus primis rotundis rapidè crescentibus, tribus ceteris subæqualibus, convexiāsculis, ultimo paulo*

PUPA.—PLATE IX.

majori, profundè umbilico-rimato; apertura subrotundata, callo prope suturam inconspicuo; marginem expanso, reflexo, seru integro.

THE CHANGEABLE PUPA. Shell oblong, cylindrical, white, obliquely costellated; apex very obtuse, whorls six, three first rounded, rapidly increased, the three others with a deeply notched umbilicus; aperture rather rounded, with an inconspicuous callus near the suture; margin expanded, reflected, almost entire.

FERRUSAC (*Versipolis*), Pfr. Mon. Hel. II. 319.

Hab. Isle of Bourbon.

Species 80. (Mus. Sowb.)

PUPA BACHILLIS. *Pup. testa cylindrico-subpyramidalis, superne rubra, infra flavidâ; anfractibus sex, obliquè, leviter costatis, superioribus paulò attenuatis; ultimo brevi, profundè remato; apertura adscendentî obliquâ, marginem reflexo, subexpanso, callo suturali prope suturam valido.*

THE STAFF PUPA. Shell cylindrical subpyramidal, red above, yellowish below; whorls six, obliquely finely ribbed, the upper a little attenuated, the last short, deeply notched; aperture raised, oblique, margin reflected, slightly expanded, sutural callus near the suture strong.

PFEIFFER. Mon. Hel. IV. 661.

Hab. Mauritius.

Species 81. (Mus. Sowb.)

PUPA LYONETTI. *Pup. testa latè pyramidalata, flavidâ, costellata; apice obtuso, anfractibus superioribus quinque gradatim crescentibus, rectiusculis; ultimo lateraliiter expando, latere sinistro gibboso, infra rimâ elongatâ duplikato; apertura obliquâ auriformi, valide adscendentî, marginem incrassato reflexo.*

LYONETT'S PUPA. Shell broadly pyramidal, yellowish, ribbed; apex obtuse, five upper whorls gradually increasing, rather straight, the last laterally expanded, gibbous at the left side, doubled below, with a long slit; aperture obliquely auriform, much raised; margin thickened, reflected.

MONTFORT (*Lyonetii*).

Gibbus Lyonetiianus, Pfeiffer.

Hab. Isl. Bourbon.

This species sometimes occurs reversed.

Species 82. (Mus. Sowb.)

PUPA CLAVATULA. *Pup. testa tenui, costata, cylindrica, supra medium inflata; anfractibus 10, costellatis, versus apicem latissimis infra contractis, ultimo rimato; apertura parca subquadrata, adscendentî, callo suturali magno.*

THE CLUB PUPA. Shell thin, ribbed, cylindrical, inflated above the middle; whorls ten, ribbed, very broad towards the apex, contracted below, the last notched; aperture small, rather square, ascending, sutural callus large.

JAMARCK. Anim. S. Vert.

Hab. Isl. Bourbon.

Species 83. (Mus. Sowb.)

PUPA HOLOSTOMA. *Pup. testa tenui, costata, albâ, cylindrica, supra medium paulò inflata; anfractibus numerosis, inferioribus subattenuatis; ultimo angusto, rimato; apertura parca, subquadrata, callo suturali maximâ.*

THE SPIKE-MOUTHED PUPA. Shell thin, ribbed, white, cylindrical, a little inflated above the middle; whorls numerous, the lower ones partly attenuated; the last narrow, notched; aperture small, subquadrate, sutural callus very large.

MORELET. Sev. Conch. II. 1860.

Hab. Mauritius.

Narrower than the preceding, and with the upper whorls less inflated.

Species 84. (Mus. Sowb.)

PUPA DUSSUMERII. *Pup. testa ventricosa, albâ, epidermide cornea salviridi; anfractibus 6, subdepressis, ultimo magno infra attenuato, profundè rimato; apertura ovata, pyriformi; marginem reflexo.*

DUSSUMERI'S PUPA. Shell ventricose, white, with a greenish horny epidermis; whorls six, rather depressed, the last large, attenuated below, deeply notched; aperture ovate, pyriform; margin reflexed.

REEVE. (*Bulinus*), Conch. Icon. Vol. V.

Hab. Mauritius.



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P U P A.

PLATE X.

Species 85. (Mus. —? Copied.)

PUPA FABREANA. *Pup. testā minutā, fusco-cornuō, sinistrā, oblongo-ovatā; spirā obtusā; anfractibus 5, convexis, regulariter crescentibus; ultimo vix rimato, versus aperturam validē contracto; apertura auriformi, ferè verticali, plicis tribus, una columnari, unā parietali, unā intus marginem labii externi productā, labio extero ad medium contracto.*

FABRE'S PUPA. Shell minute, horn-brown, sinistral, oblong-ovate, spire obtuse; whorls five, convex, regularly increased, the last scarcely notched, strongly contracted towards the aperture, aperture auriform, almost vertical, plaits three, one columellar, one parietal, one produced within the margin of the outer lip; outer lip contracted.

CROSSE, Journ. de Conch. Vol. XX. p. 359, 1872.

Hab. New Caledonia.

Species 86. (Mus. Hanley.)

PUPA SAULCEYI. *Pup. testā sinistrā, larvi, pallidē fulrā, ovato-ventricosā; spirā obtusē conicā, medio subinflatā; ultimo anfractu infrā obliquē rimato, dorso ante aperturam contracto; apertura sub-ovatā, margine albo, latè reflexo, intus sexplicata, plicis acutis, medio approximatis; callo suturali valido, elongato.*

SAULCEY'S PUPA. Shell sinistral, smooth, pale, fulvous, ovate-ventricose; spire obtusely conical, slightly inflated in the middle; last whorl obliquely notched, the back contracted before the aperture; aperture subovate, margin white, broadly reflexed, with six plaits within, acute, approaching in the middle; sutural callus strong, elongated.

BOURGAINVILLE. Pfcr. Mon. IV. p. 684.

Hab. Southern Europe.

Species 87. (Mus. Hanley.)

PUPA SCAPUS. *Pup. testā sinistrā, elongato-cylindricā, solidā, pallidā, spirā supernā conicā, medio cylindricā, anfractibus 8, 9, superioribus rotundis,*

rapide crescentibus, medianis subequalibus, ultimo vix rimato; apertura parvā, subovatā, labio interno supra medium uniplicato.

THE STALK PUPA. Shell sinistral, elongated, cylindrical, solid, pale, whorls 8 or 9, the upper ones rounded, rapidly increased, the middle ones rather equal, the last with a very slight notch; aperture small, rather ovate, inner lip with a single plait above the middle.

PARREY'S. Pleiffer (Chondrina), Mon. VI.

Pupa Raymondii, Bourgainville.

Bulinus bicallus? Triv.

Hab. Asia Minor.

Species 88. (Mus. —? Copied.)

PUPA PAITENSIS. *Pup. testā minutā, sinistrā, subviridi-fusca, brevi, tenui, breviter cylindrica; anfractibus qualior gradatim crescentibus, spirā obtusā; apertura subovata, columella reflecta, labio interno uniplicata.*

PAITIAN PUPA. Shell minute, sinistral, greenish brown, short, thin, shortly cylindrical; whorls 4, gradually increased, last deeply notched, spire obtuse, aperture subovate, columella reflected, inner lip single-plaited.

CROSSE. Journ. de Conch. 1874, p. 391., Pl. 12, Fig. 5.

Hab. Paiti, Peru.

Species 89. (Mus. Sievers.)

PUPA SIGNATA. *Pup. testā parvā, albā, perforata, cylindracea, levigata, supra medium inflatā, infra subattenuata; apice obtuso; anfractibus septem, medianis rectiusculis, ultimo ad basim obscurissimè cristato, impressione signato, apertura parvā, margine crasso, rotundo, labio interno horizontali, medio acutè uniplicato.*

THE MARKED PUPA. Shell small, white, perforated, cylindrical, smooth, inflated above the middle, rather attenuated below, whorls 7, middle ones rather straight, the last very obscurely crested and marked with an impression; aperture small, margin thick, inner lip horizontal, with a sharp tooth in the middle.

PUPA.—PLATE X.

MOUSSON. Journ. de Conch. 1873, p. 211. Pl. VIII.

Fig. 7.

Hab. Araxis.

Species 90. (Mus. Sievers.)

PUPA BIFILARIS.⁴ *Pup. testū parvā, fusac, cylindricā, levigatā, apice obtuso; anfractibus septem, medianis rectiūsculis, ultimo arcè rimato; aperturā latā, margine latē reflexo, columellā latā, biflosā, labio interno prope medium uniplicato.*

THE DOUBLE-THREADED PUPA. Shell small, brown, cylindrical, smooth, apex obtuse; whorls 7, middle rather straight, the last with a carved notch; aperture broad, with broadly reflected margin, columella broad, two-threaded, inner lip with a single plait near the middle.

MOUSSON. Journ. de Conch. 1873, p. 210. Pl. VIII.

Fig. 8.

Hab. Gorkischa.

Species 91. (Mus. Crosse.)

PUPA DESMAZURESI. *Pup. testū parvā, falcā, breviter, cylindricā; apice obtusissimō; anfractibus septem, convexis sculis; ultimo profundē rimato, aperturā subauriformi, internē uniplicati; labio interno acutē uniplicato, columellā acutē uniplicati; labio externo tenui.*

DESMAZURES'S PUPA. Shell small, fulvous, shortly cylindrical, apex very obtuse; whorls seven, rather convex; the last deeply notched; aperture rather auriform, with one interior plait, inner lip with one sharp plait, columella with one sharp plait; outer lip thin.

CROSSE. Journ. de Conch. 1874, p. 227, Pl. VIII. f. 3.

Hab. Isl. Rodriguez.

Species 92. (Mus. Hanley.)

PUPA POLYODON. *Pup. testū fulvā, cylindrico-fusiformi, tenuiter liratā, altā, angustā, anfractibus nōrem, convexis sculis, medianis subaequalibus, suturā profundā separatis; ultimo profundē rimato; aperturā parvā, ovalā, plicis numerosis intranti bus inaequalibus contractā.*

THE MANY-TOOTHED PUPINA. Shell fulvous, cylindrically fusiform, finely ridged, raised, narrow, whorls nine, rather convex, the middle ones nearly equal, separated by a deep suture; the

last deeply notched; aperture small, oval, contracted by numerous entering unequal plaits.

DRAPARNAUD. Moll. Ter. et Fluv.

Pupa ringicula, Michaud.

Hab. Southern Europe.

Species 93. (Mus. Hanley.)

PUPA NUCIFRAGA. *Pup. testū subovatā, pallidē fulvā, brevi, tenuiter striatā; apice obtuso; anfractibus quinque, superioribus quatuor, brevibus, rapidē crescentibus, convexis, ultimo alto, rectiūsculo, latē et profundē rimato; aperturā ad suturam elevatā, callosā, plicis tribus magnis et duabus minoribus contractā, margine propè suturam sinuata.*

THE NUTCRACKER PUPA. Shell rather oval, pale fulvous, short, finely striated; apex obtuse; whorls five, the four upper ones short, rapidly increasing, convex, the last elevated, rather straight, with a broad and deep notch; aperture raised at the suture, with a small sutural callus, contracted by three large and three smaller plaits, and a sinus near the suture.

PARREY's. Plfr. Mon. Hel. Bulimus (Chondrule), Vol. VI. p. 22.

Hab. Isl. Cyprus.

Species 94. (Mus. — ? Copied)

PUPA LIENARDIANA. *Pup. testū parvā, fusco-tornatā, elatā, subcylindricā, levigatā; anfractibus dupli bus, parvis apicalibus, tum tribus, altis inflato cylindracis; ultimā profundē rimato; aperturā obliquā oblongo-subquadratā; dentibus undū parietali, undū columellarī, productis acutis duobus marginalibus infra medium labii externi locatis.*

LIENARD'S PUPA. Shell small, horny, brown, elevated, subcylindrical, smooth; whorls two, small apical, then three elevated, inflated, cylindrical; the last with a deep notch; aperture oblique, oblong-subquadrate, with one parietal and one columellar tooth, produced, sharp, two marginal, placed below the middle of the outer lip.

CROSSE. Journ. de Conch. 1874, p. 228, Pl. VIII. f. 4.

Hab. Coral Point, Isl. Rodriguez.

This is said to bear some resemblance shell named *caryelium mauritianum* Adams.



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P U P A.

PLATE XI.

Species 95. (Mus. — ?)

PUPA CASPIA. *Pup. testū minutā, fuscā, lēvi, breviter cylindricā, apice obtusissimo; anfractibus 5, convexiūsculis, ultimo arcuatim rimato; aperturā majuscūlā, subquadratā, plicā parietali acutā, margine externo tenui, columellā obliquā.*

THE CASPIAN PUPA. Shell minute, brown, smooth, shortly cylindrical, apex very obtuse; whorls five, rather convex, the last with an arched notch; aperture rather large, rather square, parietal plait sharp, outer margin thin, columella oblique.

PFEIFFER. Malak. Bl. 1871. Vol. XVIII.

Hab. Lenkoran, Transcaucasia.

Species 96. (Mus. — ?)

PUPA LONGURIO. *Pup. testū nīnūtā, fuscā, levigatā, elongatā, angustā, subcylindrico-pyramidalā; apice obtuso; anfractibus quinque, convexiūsculis, ultimo cylindraceo, elongatā, arcuatim rimato; aperturā subquadratā, margine lutescenti, expanso, reflexo; plicis parietali et columellari prominentibus, acutis, plicis internis tribus.*

THE POLE PUPA. Shell minute, brown, smooth, elongated, narrow; whorls five, rather convex, last cylindrical pyramidal; apex obtuse; whorls five, rather convex, the last cylindrical, elongated, with a curved slit; aperture rather tending to square, margin yellowish, expanded, reflected; a prominent sharp parietal, and a columellar plait; internal plaits three.

CROSSE. Journ. de Conch, 1873. Pl. I. f. 2.

Hab. Curaçao, Antilles.

Species 97. (Mus. Hanley.)

PUPA ARICONIS. *Pup. testū angustā, purpureo-fuscā, sulfusiformi; anfractibus 8, gradatim crescentibus; ultimo profundè rimato; aperturā parvā, fulvā, elevatā, angustè ovatā, intus biplicatā, callo suturali albo, conspicuo, plicā parietali intranti, columellā latā, elevatā, uniplicatā, labio externo crassiūsculo.*

THE ARIGO PUPA. Shell narrow, purple-brown, subfusiform; whorls 8, gradually increased, the last deeply notched; aperture small, fulvous, raised, narrowly ovate, with two interior plaits, sutural callus white, conspicuous, parietal plate entering, columella broad, raised, single-plaited; outer lip rather thick.

ROSSMÄSLER. Icon. III. 17, p. 105, t. 85, f. 936.

Pup. megachilos, Albers.

Hab. Valentia.

Species 98. (Mus. Hanley.)

PUPA PAGODULA. *Pup. testū fulvo-cornicē, inflato-cylindricā, brevi, obliquè liratā; apice obtuso; anfractibus septem, depresso, convexis, medianis inflatis, ultimo profundè et longè rimato, infra medium contracto; aperturā ad suturam anfractūs ultimi elevatā, prope suturam sinuatā, columellā prope medium callosā, labio externo supra medium tumidā.*

THE LITTLE PAGODA PUPA. Shell horny-fulvous, inflated-cylindrical, short, obliquely ridged; apex obtuse; whorls seven, depressed, convex; the middle ones inflated, the last with a deep and lengthened slit, contracted below the middle; aperture raised to the suture of the last whorl, situated near the suture, columella callous near the middle, outer lip tumid above the middle.

DESMARET. Pissr. Mon. Hel. II. 310.

Hab. South Europe.

Species 99. (Mus. Hanley.)

PUPA VILLE. *Pup. testū cylindricā, fuscā, politā, apice obtusissimo, anfractibus ad apicem rapidè crescentibus, tum tumidis, medianis rectiūsculis, altis, ultimo profundè et latè rimato; aperturā angustā, paulum elevatā, obliquā, margine angusto, labio externo supra medium sinuato; labio interno prope suturam callo-pliciformi munito, columella obliquā, edentulā.*

VILLA'S PUPA. Shell cylindrical, brown, polished, apex very obtuse, whorls rapidly increased at the

PUPA.—PLATE XI.

apex, then tumid, middle ones rather straight, elevated, the last deeply and broadly notched; aperture narrow, a little raised, oblique, margin narrow, outer lip situated above the middle, inner lip provided with a plait-like callus near the suture, columella oblique, toothless.

CHARPENTIER. Pfeiffer. Mon. Hel. II. 330.

Hab. Spain.

Species 100. (Mus. Hanley.)

PUPA STRANGEI. *Pup. testâ sinistrali, cylindricâ, tenui, semipellucida, cornuâ, anfractibus 4, apicali rotundo, duabus medianis convexisculis, ultimo altiusculo, infrâ profundè rimato; aperturâ subtriangulari, margine albo, reflexo; labio interno plicis dentiformibus duabus infra medium armato, columellâ plicâ prominenti et alterâ parrâ, et labio interno plicâ parietali duplicitâ munitis.*

STRANGE'S PUPA. Shell sinistral, cylindrical, thin, semipellucid, horny, whorls 4, the apical one rounded, the two middle ones rather convex, the last rather raised, deeply notched below; aperture subtriangular, margin white, reflected; inner lip armed with two tooth-like plaits, columella provided with a prominent plait and another small one, and the inner lip with a doubled parietal plait.

PFEIFFER. Mon. VI. 336.

Hab. Port Jackson.

Species 101. (Mus. Hanley.)

PUPA CONICA. *Pup. testâ fuscâ, subpyramidalâ, filoso-striatâ; apice acutiusculo; anfractibus novem, depressis, versus apicem attenuatis, ultimo lato, profundè et longè rimato; aperturâ versus suturam ultimi anfractus elevatâ, columellâ perobliquâ, intus spiritaliter biplicatâ, labio externo intus infra medium uniplicato.*

THE CONICAL PUPA. Shell brown, rather pyramidal, with thread-like striae; apex rather acute; whorls nine, depressed, the last broad, with a deep and long slit; aperture raised towards the suture of the last whorl, columella very oblique, with two spiral plaits, outer lip with a plait inside, below the middle.

ROSSMÄSLER. Pfeiffer, Mon. Hel. II. 325.

Hab. Styria.

Species 102. (Mus. Hanley.)

PUPA DOLIOLUM. *Pup. testâ cylindricâ, fuscâ, tenuiter liratâ, prope apicem tumidâ, infrâ subattenuatâ; anfractibus septem; convexisculis, ultimo arcuatum rimato; aperturâ latâ, albâ; labio externo prope suturam sinuato, labio interno plicâ parietali munito.*

THE LITTLE TUN PUPA. Shell cylindrical, brown, finely ridged, tumid near the apex, a little attenuated below; whorls seven; rather convex, the last with a curved notch; aperture broad, white; outer lip situated near the suture, inner lip provided with a parietal plait.

BRUGUIÈRE. Lamk. Anim sans Vert.

Helix coronata, Stüder.

Helix spinosa, Ferrussac.

Helix critica, Zelli.

Helix villosula, Kockel.

Hab. South Europe.

Species 103. (Mus. Hanley.)

PUPA RUPESTRIS. *Pup. testâ pyramidatâ, fusco-purpureâ; apice acuminato; anfractibus quinque, convervis, rapidè crescentibus, obliquè tenuiter liratis, ultimo majuscule, rimato; aperturâ parvâ, margine ferè continuo, plicis nullis.*

THE ROCK PUPA. Shell pyramidal, purple-brown; apex acuminate; whorls five, convex, rapidly increased, obliquely, finely ridged; the last rather large, notched; aperture small, margin almost continuous, without plaits.

PHILIPPI. Pfeiffer II. 314.

Hab. Sicily.

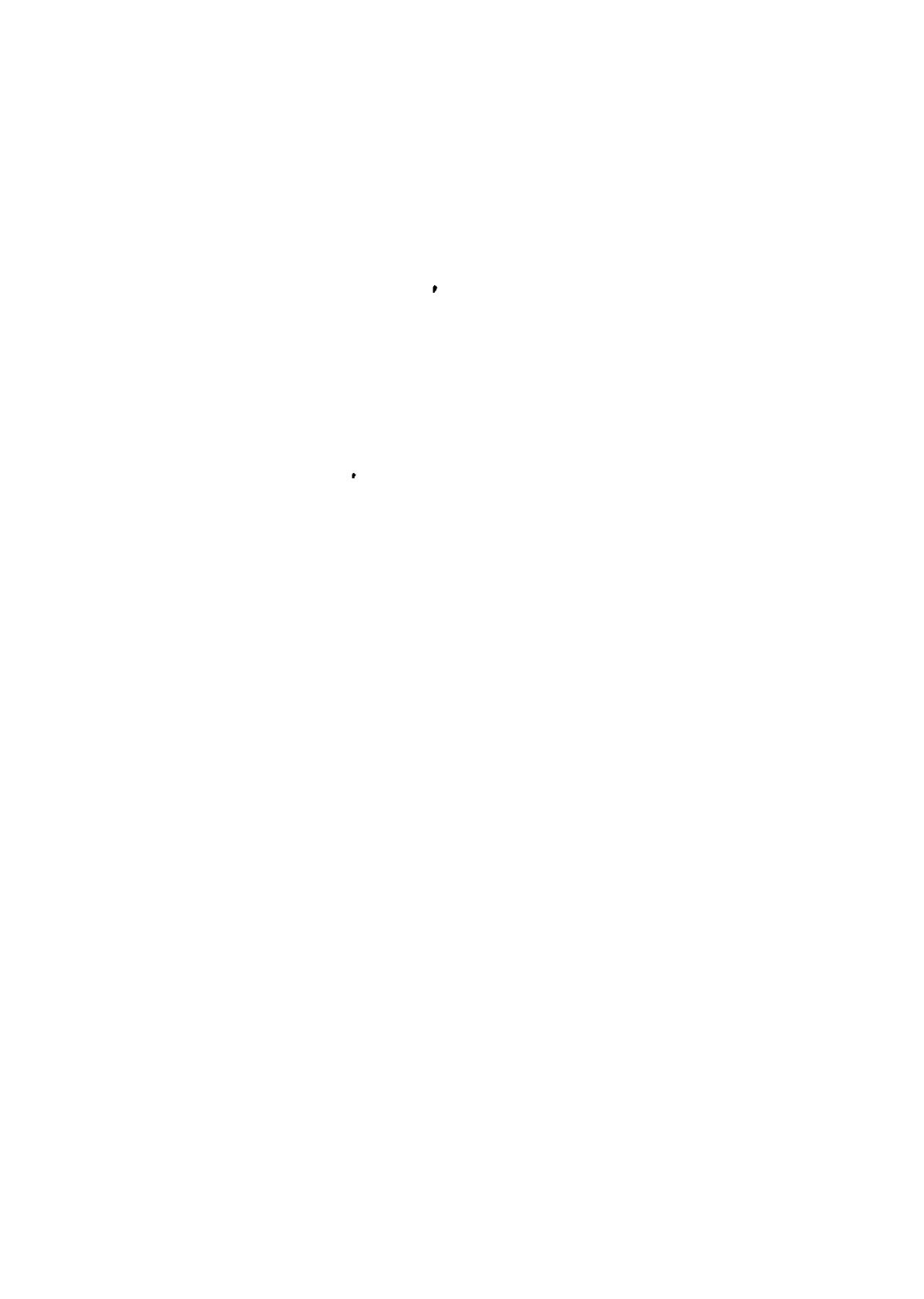
Species 104. (Mus. Hanley.)

PUPA LINCOLNENSIS. *Pup. testâ sinistrali, albâ vel fuscâ, tenuiter striatâ, breviter cylindricâ, apice obtuso, ultimo anfractu infrâ breviter rimato; aperturâ parvâ, margine reflexo, labio interno uniplicato.*

THE PORT LINCOLN PUPA. Shell sinistral, white or brown, finely striated, shortly cylindrical, apex obtuse, last whorl with a short notch below; aperture small, margin reflected, inner lip with one fold.

Cox. Proc. Geol. Soc. 1867.

Hab. Port Lincoln, S. Australia.





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P U P A.

PLATE XII.

Species 105. (Mus. Lewis.)

PUPA GOULDII. *Pup. testā minutā, fusco-cornēd, lavigatā, breviter subcylindricā; anfractibus quatuor, tribus inflatis, rotundis, ultimo latē rimato; aperturā subauriformi, plicis internis lamelliformibus tribus, plicā parietali labii interni acutē productā; plicis columellaribus duabus.*

GOULDE'S PUPA. Shell minute, horny-brown, smooth, shortly sub-cylindrical; whorls four, three inflated, rounded, the last broadly notched; aperture rather auriform, with three interior lamelliform plaits, parietal plait of the inner lip sharply produced; columellar plaits two.

BINNEY. Pfeiffer. Mon. Hel. II. 358.

Hab. Arctic America.

Species 106. (Mus. Hanley.)

PUPA CORTICARIA. *Pup. testā parvā, albā, pellucidā, in partibus cortice subgranosa obtectā, breviter cylindricā, apice obtuso; anfractibus quatuor rotundis, ultimo rimato; aperturā auriformi; labio interno plicā magnā et alterā parvā munito, plicā columellarī parvā.*

THE RIND-COVERED PUPA. Shell small, white, pellucid, covered in parts by a slightly granular crust or rind, shortly cylindrical, apex obtuse; whorls four, rounded, the last notched; aperture auriform, inner lip provided with a large plait and a small one, columellar plait small.

SAY. Pfeiffer. Mon. Hel. II. 328.

Hab. Pennsylvania.

Species 107. (Mus. Hanley.)

PUPA ALPICOLA. *Pup. testā fuscā, cylindricā, breviūsculā, lavi, apice obtuso, anfractibus septem, convexis, ultimo infrā contracto, horizontaliter rimato; aperturā subquadratā, margine intūs paulo incrassato, plicis nullis.*

THE ALPINE PUPA. Shell brown, cylindrical, rather short, smooth, apex obtuse, whorls seven, rather convex, the last contracted below, with an horizontal notch; aperture rather square, margin a little thickened within, no plaits.

CHARPENTIER. Pfeiffer. Mon. Hel. II. 305.

Hab. Spain.

Species 108. (Mus. Hanley.)

PUPA ANCONOSTOMA. *Pup. testā subviridi-fuscā, cylindricā, anfractibus sex brevibus, eis convexis, ultimo rimato, subumbilicato; aperturā subtrigonā, infra subacuminatā, supernè prope suturam angulatā, margine infra angulum tumidiūscula.*

THE ANGLE-MOUTHED PUPA. Shell greenish-brown, cylindrical, whorls six, short, very slightly convex, the last notched, rather umbilicated; aperture rather trigonal, slightly acuminate below, angular above near the suture, margin a little swelled below the angle.

LOWE. Pfeiffer II. 314.

Pupa umbilicata var. De Paiva.

Pupa Fanalensis, Lowe.

Hab. Madeira.

Species 109. (Mus. Hanley.)

PUPA CHARPENTIERI. *Pup. testā parvā, brevi, inflatā, fuscā, semipellucidā, anfractibus quatuor, tribus rotundis, rapidè crescentibus, ultimo magno, infra paulo contracto, profundè rimato; aperturā subtrigonā, labio externo prope suturam sinuato, medio et infra intūs incrassato; plicis dentiformibus, parietali unā, columellarī duabus magnis et unā parvā, labii externi duabus.*

CHARPENTIER'S PUPA. Shell small, short, inflated, brown, semipellucid, whorls four, three round, rapidly increasing, the last large; a little contracted below, with a deep notch; aperture sub-

PUPA.—PLATE XII.

trigonal, outer lip sinuated near the suture, thickened at and below the middle, tooth-like plaits, one parietal, columella two large and one small, and two on the outer lip.

SHUTTLEWORTH. Pfeiffer. Mon. III. p. 555.

Pupa Moultoniana, Dupuy.

Pupa (vertigo) ventrosa, Heynem.

Hab. Spain, France, Germany.

Species 110. (Mus. Hanley.)

PUPA PELLUCIDA. *Pup. testâ elatâ, subpyramidalâ, fuscâ, lirâ, semipellucidâ, anfractibus sex, inflatis, ultimo breviter rimato; aperturâ parvâ, plicis dentiformibus tribus ad quinque, plicâ ultimi anfractus nonnunquam ad terminum duplicatâ.*

THE PELLUCID PUPA. Shell raised, rather pyramidal, brown, smooth, semipellucid, whorls six, inflated, the last with a short notch; aperture small, tooth-like plaits three to five, the plait of the body whorl sometimes doubled at the end.

PFEIFFER. Mon. Hel. II. 360.

Pupa serrilis, Gould.

Pupa Rüsei, Adams.

Hab. Cuba, Jamaica, St. Thomas, Porto Rico.

Species 111. (Mus. Hanley.)

PUPA PACHYGASTRA. *Pup. testâ elatâ, cornéâ, tenuiter liratâ, subfusiformi, versus apicem acuminatâ, medio cylindrico; anfractibus decem rectiunculis, ultimo infrâ acuminato, longè et obliquè rimato, aperturâ ovatâ, adscendentî, margine albo, reflexo, subexpanso, callo suturali laminatim continuo, plicis ultimi anfractus unâ et columella quatuor, lamelliformibus, labii externi quatuor, lamini-formibus, intus continuis.*

THE THICKENED PUPA. Shell raised, horny, finely ridged, rather fusiform, acuminate towards the apex, cylindrical in the middle; whorls ten, rather straight; the last acuminate below, with a long oblique notch, aperture ovate, raised, margin white, reflected, rather expanded, sutural callus continued in layers, plaits of the last whorl one, and of the columella four, lamelliform, of the outer lip four, laminiform, continued within.

ZEIGLER. Pfeiffer. Mon. Hel. II. 337.

Pupa oblongata, Rossmäslér.

Pupa frumentum var? Adams.

Hab. Dalmatia.

Species 112. (Mus. Hanley.)

PUPA VARIABILIS. *Pup. testâ elatâ, cornéâ, tenuiter liratâ, versus apicem acuminatâ, medio inflatâ, anfractibus decem, convexiunculis, ultimo infrâ acuminato, longè et obliquè rimato; aperturâ ovatâ, latâ, adscendentî, margine albo, reflexo, expanso; callo suturali intus continuo, plicis laminiformibus intus continuis, convergentibus.*

THE VARIABLE PUPA. Shell raised, horny, finely ridged, acuminate towards the apex, inflated in the middle, whorls ten, rather convex, the last acuminate below, with a long, oblique notch, aperture ovate, broad, raised, margin white, reflected, expanded; sutural callus continued within, lunelliform plaits continued within, converging.

DRAPARNAUD. Pfeiffer. Mon. Hel. II. 349.

Helix mutabilis, Ferrussac.

Pupa multidentata, Olivi.

Hab. France, Switzerland, Spain.

Species 113. (Mus. Hanley.)

PUPA LUSITANICA. *Pup. testâ subpyramidalâ, purpurro-fuscâ, versus apicem attenuatâ, obliquè liratâ, medio paulò inflatâ; anfractibus septem, convexis, ultimo majuscule, obliquè breviter rimato; aperturâ pallidè fulvâ, labio externo paulò elevato, leviter reflexo; columellâ profundâ biplicatâ, plicis internis tribus elongatis.*

THE LUSITANIAN PUPA. Shell rather pyramidal, purple-brown, attenuated towards the apex; obliquely ridged, a little inflated in the middle; whorls seven, convex, the last rather large, with a short oblique notch; aperture pale fulvous, outer lip a little raised, slightly reflected; columella deep, two-plaited, three internal elongated plaits.

ROSSMÄSLER. Pfeiffer. Mon. Hel. II. 347.

Hab. Lusitania.

Species 114. (Mus. Hanley.)

PUPA MODESTA. *Pup. testâ minutâ, fuscâ, brevi, inflatâ, semipellucidâ, anfractibus quatuor, rotundis; ultimo umbilicato; aperturâ parvâ, brevi, plicis dentiformibus acutis plurimis contracto.*

THE MODEST PUPA. Shell minute, brown, short, inflated, semipellucid; whorls four, rounded, the last umbilicated; aperture small, short, contracted by several sharp tooth-like plaits.

A. ADAMS. Proc. Zool. Soc.

Hab. Mauritius.



115.



116.



117.



118^a.



119.



120.



118^b.



121.



122.

123.

P U P A.

PLATE XIII.

Species 115. (Mus. Hanley.)

PUPA RHODIA. *Pup. testā angustā, altā, pyramidatā, fuscā, tenuissimè liratā; apice obtuso; anfractibus sex, superioribus qualuor attenuatis, subrotundis, penultimo ventricoso, ultimo umbilicato; aperturā parvā, angustā, anticē acuminatā, intus dentibus prominentibus quinque contractā.*

THE RHODE PUPA. Shell narrow, high, pyramidal, brown, very finely ridged; apex obtuse; whorls six, upper four attenuated, rather rounded, last but one ventricose, last umbilicated; aperture small, narrow, anteriorly acuminate, contracted within by five prominent teeth.

ROTHWELL. Pfeiffer, Monograph V. p. 318.

Pupa acutula. Parreys.

Hab. Rhode, Dalmatia.

Species 116. (Mus. Hanley.)

PUPA UVULA. *Pup. testā clavatā, albida, costellis rectis rotundis sculptā; apice obtuso; anfractibus superioribus ventricosis, duobus ultimis subcylindricis, paulò contractis, ultimo longè rimato; aperturā rectā, posticē subquadratā, anticē productā, rotundā, prope suturam plicā parietali munitā.*

THE UVULE PUPA. Shell club-shaped, whitish, sculptured with rounded, straight little ribs; apex obtuse; upper whorls ventricose, two last rather cylindrical, a little contracted, last with a long notch; aperture straight, posteriorly rather square, anteriorly produced, rounded, provided with a parietal plait.

DESHAYES. Conchologie de l'île de la Réunion.

Hab. Isl. Bourbon.

Species 117. (Mus. Hanley.)

PUPA OVULARIS. *Pup. testā ovatā, brevi, ventricosā, levi, fusco-cornerē; apice obtuso; anfractibus quatuor, tribus superioribus brevibus, ultimo magno,*

breviter rimato; aperturā albā, semiovatā, intus dentibus quinque prominentibus contractā, margine subexpanso.

THE EGG-SHAPED PUPA. Shell ovate, short, ventricose, smooth, brownish-horny; apex obtuse; whorls four, three upper short, last large, with a short notch; aperture white, semiovate, contracted within by five prominent teeth, margin rather expanded.

OLIVIER. Pfeiffer (Bulimus), Mon. 1868, p. 7.

Hab. Syria.

Species 118. (Fig. a, b. Mus. Hanley.)

PUPA SEPTEMDENTATA. *Pup. testā oblongo-ovatā, fusco-purpureā vel albida, levi, altā, apice obtusiusculo; anfractibus sex, tribus superioribus brevibus, penultimo ventricoso, ultimo longè et arcuatim rimato; aperturā ovatā, albā, dentibus septem lamelliformibus intus valde contractā, margine latè expanso, ad dorsum contracto.*

THE SEVEN-TOOTHED PUPA. Shell oblong-ovate, purple-brown or white, smooth, high; apex rather obtuse; whorls six, three upper rather short, last ventricose, with a long curved notch; aperture ovate, white, strongly contracted within by seven lamelliform teeth, margin broadly expanded, contracted at the back.

ROTHWELL. Pfeiffer (Bulimus), Mon. 1868, p. 70.

Hab. Syria.

Species 119. (Mus. Hanley.)

PUPA PRODUCTA. *Pup. testā altissimā, cylindrica, albā, densè liratā; anfractibus septem, tribus superioribus brevibus, rotundis, tribus medianis rectis, ad suturam compressis, ultimo minutè umbilicato; aperturā majuscūla, propè suturam unidentata, margine subincrassato, lateraliter paulò producta.*

THE PRODUCED PUPA. Shell very tall, cylindrical, white, closely ridged; whorls seven, three upper

PUPA.—PLATE XIII.

short, rounded, three middle straight, compressed at the suture, last with a small umbilicus; aperture rather large, with a tooth near the suture, margin rather thickened, a little produced laterally.

ADAMS. Proc. Zool. Soc.

Hab. Mauritius.

middle of the whorls; apex obtuse; whorls seven, apical, small, smooth, middle tumid, broad, last contracted in the middle and under, with a short notch; aperture short, sutural plait large.

LOWE. Pfeiffer, Mon. 1868.

Hab. Porto Santo, Madeira.

Species 120. (Mus. Hanley.)

PUPA PAMPHORODON. *Pup. testâ sinistrali, fuscâ, ovato-oblongâ, subventricosâ, tenuiter obliquè liratâ; apice obtuso; anfractibus novem, brevissimis, ultimo longè et latè rimato, ad dorsum aperiturâ contractâ; aperturâ albâ, obliquâ productâ, intus angustissimè dentibus laminatis prominentibus contractâ, margine lato, tenui, producto.*

THE BEAK-TOOTHED PUPA. Shell sinistral, brown, ovate-oblong, rather ventricose, finely obliquely ridged; apex obtuse; whorls nine, very short, last with a long and broad notch, contracted at the back of the aperture; aperture white, obliquely produced, contracted within very narrowly by laminated prominent teeth; margin broad, thin, produced.

BENSON. Ann. and. Mag. Nat. Hist. 3rd series, June 1864.

Hab. Near Simon's-Town, Cape of Good Hope.

Species 121. (Mus. Hanley.)

PUPA CALATHISCUS. *Pup. testâ parvâ, fuscâ, brevi, ventricosâ, costis validis, distantibus, prominentibus, rotundis liratâ, medio anfractuum fusco unifasciatâ; apice obtuso; anfractibus septem, apicalibus parvis, levigatis, medianis tumidis, latâ, ultimo medio infrâque contracto, breviter rimato; aperturâ brevi, plicâ suturali magnâ, columellarâ parvâ, labio externo pîtûs triplicato.*

THE LITTLE-BACKED PUPA. Shell small, brown, short, ventricose, ridged with strong, distant, prominent, rounded ribs, with a brown band in the

Species 122. (Mus. Hanley.)

PUPA CYLINDRELLUS. *Pup. testâ albâ, tenui, semipellucidâ, laevigatâ, clavatâ; apice obtuso; anfractibus octo, superioribus brevissimis, rapidè crescentibus, medianis et inferioribus gradatim attenuatis, altiusculis, convexiusculis, ultimo profundè rimato, infrâ contracto; aperturâ subovatâ, plicâ suturali magnâ.*

THE LITTLE-CYLINDER PUPA. Shell white, thin, semi-pellucid, smooth, club-shaped; apex obtuse; whorls eight, upper very short, rapidly increasing, middle and lower gradually attenuated, rather high, rather convex, last deeply notched, contracted below; aperture rather oval, with large sutural plait.

A. ADAMS. Proc. Zool. Soc.

Hab. Isl. Bourbon.

Species 123. (Mus. Hanley.)

PUPA STRIATICOSTATA. *Pup. testâ albâ, solidiusculâ, subpyramidalitâ, densè obliquè costellatâ, costellis elevatis, levibus, incisis; ultimo anfractu umbilicato et breviter rimato; aperturâ majuscûla, subquadratâ, edentulâ; columellâ intus media tumidiussculâ.*

THE STRIA-RIBBED PUPA. Shell white, rather solid, subpyramidal, closely obliquely ribbed, ribs raised, smooth, incised; last whorl umbilicated and shortly notched; aperture rather large, rather square, toothless; columella rather tumid within at the middle.

MORELET. Rev. et Mag. Zool. XVIII., 1866.

Hab. Mauritius.

Pupa Pl. XII



125.



127.



126.



128.



129.



130.



131.



132.



133.

P U P A.

PLATE XIV.

Species 124. (Mus. Hanley.)

PUPA ROSSMASLERI. *Pup. brevi, ventricosâ, conicâ, pallidâ cornet, tenuiter obliquè costellatâ; anfractibus sex, brevibus, rapidè latitudine crescentibus, ultimo longè rimato; aperturâ parvâ, ad medium ultimi anfractus elevatâ, intus marginem septendentatâ.*

ROSSMASLER'S PUPA. Shell short, ventricose, conical, pale horny, finely obliquely ribbed; whorls six, short, rapidly widening, last with a long notch; aperture small, raised to the middle of the last whorl, with seven teeth within the margin.

SCHMIDT. Pfeiffer, Monog. 1868, p. 323.

Hab. Illyria.

Species 125. (Mus. Hanley.)

PUPA STENOPHYLIS. *Pup. testû parvâ, albâ, semipellucidâ, costatâ, pupæformi, brevi; anfractibus sex, apicalibus duobus parvis, levigatis, medianis ventricosis, inferioribus gradatim attenuatis, ultimo infrâ angustato, longè rimato; aperturâ parvâ, angustatâ, prope suturam ultimi anfractus elevatâ, labio externo supra medium valde sinuato, undentato, plicâ suturali maximâ, descendenti.*

THE NARROW-LEAFED PUPA. Shell small, white, semi-pellucid, ribbed, chrysalis-shaped, short; whorls six, two apical small, smooth, middle ventricose, lower gradually attenuated, last narrow below, with a long notch; aperture small, narrow, raised to near the suture of the last whorl, outer lip with a strong bend above the middle, with one tooth, sutural plait very large, descending.

BENSON. Fid. Hanley.

Hab. Khasi.

Species 126. (Mus. Hanley.)

PUPA NOVAZELANDICA. *Pup. testâ cylindricâ, fusca rufâ costatâ; anfractibus sex, apicalibus subcomplanata-*

tis, ultimo umbilicato; aperturâ parvissimâ, simplici.

THE NEW ZEALAND PUPA. Shell cylindrical, brown, coarsely ribbed; whorls six, apical rather flattened, last umbilicated; aperture rather small, simple.

PFEIFFER. (Vertigo) Mon. 1868, p. 299.

Hab. New Zealand.

Species 127. (Mus. Hanley.)

PUPA MONDRAINI. *Pup. testû solidissimâ, albâ, breviter cylindracâ, tenuiter costatâ; anfractibus septem, apicalibus rapidè crescentibus, brevissimis, duobus medianis ventricosis, rotundis, ultimo alto, infrâ umbilicato; aperturâ subquadratâ, edentâ, elevatâ, marginâ simplici angustâ reflexo.*

MONDRAINE'S PUPA. Shell rather solid, white, shortly cylindrical, finely ribbed; whorls seven, apical, quickly increasing, very short, two middle ventricose, rounded, last high, umbilicated below; aperture rather square, toothless, raised, margin simple, narrowly reflected.

ADAMS. Proc. Zool. Soc.

Hab. Mauritius.

Species 128. (Mus. late Deshayes.)

PUPA BOURGUIGNATI. *Pup. testû crassissimâ, albâ, irregulariter striatâ, breviter subpyramidalis; ultimo anfractu breviter rimato; aperturâ subobliquè quadratâ, ad anfractum ultimum medio unidentatâ, marginâ medio subdepresso.*

BOURGUIGNATI PUPA. Shell rather thick, white, irregularly striated, short, subpyramidal; last whorl shortly notched; aperture rather obliquely square, with a single tooth at the last whorl, in the middle, margin rather depressed in the middle.

DESHAYES. Conch. fl. Réunion, Pl. XXXVII., Fig. 27, 28.

Hab. Isl. Bourbon.

PUPA.—PLATE XIV.

Species 129. (Mus. late Deshayes.)

PUPA INTERSECTA. *Pup. testū crassiñsculā, albida, subpyramidalā, prope apicem tumidiñsculā; anfractibus octo, tribus superioribus lăvibūs, ceteris lentē crescentibus, liris unequalibus irregularibus, distantibus, obliquis sculptis; aperturā subquadratā, supernē unidentatā.*

THE INTERSECTED PUPA. Shell rather thick, rather white, rather pyramidal, a little swelled near the apex; whorls eight, three upper smooth, the others slowly increased, sculptured with unequal, irregular, distant oblique ridges; aperture rather square, with a single tooth above.

DESHAYES. Conch. de l'île de la Réunion, Pl. XXVIII.

Fig. 1.

Hab. Isl. Bourbon.

Species 130. (Mus. Hanley.)

PUPA FERRARI. *Pup. testū cylindricā, altd, fusca, crebricostatā; anfractibus octo, superioribus brevissimis, ultimo alto, recto, infrā latē umbilicato, carinā desinenti; aperturā parvā, angustā, plicis duobus, prominentibus, acutis, subinternis ad columellam et anfractum ultimum armatā, labio extero, supernē sinuato, tum dente magno incrassato.*

FERRARI'S PUPA. Shell cylindrical, high, brown, close-ribbed; whorls eight, upper very short, last high, straight, broadly umbilicated below, ending in a keel; aperture small, narrow, armed with two prominent short subinternal teeth at the columella and last whorl, outer lip sinuated above, then thickened with a large tooth.

PORRO. Pfeiffer, Mon. 1868, p. 309.

Pupa biplicata, Rossmüller.

Pupa guttula, Porro.

Hab. Upper Italy.

Species 131. (Mus. Hanley.)

PUPA VENTRICOSA. *Pup. testū parvā, brevissimā, subglobosā, tenui, fusco-corneā; anfractibus quatuor, apicalibus pyramidatis, ultimo subgloboso; aperturā rotundā, supernē unidentatā.*

THE VENTRICOSE PUPA. Shell small, very short, rather globose, thin horny brown; whorls four, apical pyramidal, last rather globose; aperture rounded, with a single tooth above.

ADAMS. Proc. Zool. Soc.

Hab. Mauritius.

Species 132. (Mus. Hanley.)

PUPA PUPULA. *Pup. testū minutā, cornēa, lăvi, cylindricā; apice obtuso; ultimo anfractu breviter rimato; aperturā brevi subquadratā, intius tridentatā, columellā obliquā.*

THE PUPIL PUPA. Shell minute, horny, smooth, cylindrical; apex obtuse; last whorl shortly notched; aperture short, rather square, trideterminate within, columella oblique.

DESHAYES. Conch. de l'île de la Réunion. Pl. XXXVIII., Fig. 2.

Hab. Isl. Bourbon.

Species 133. (Mus. late Deshayes.)

PUPA TURGIDULA. *Pup. testū brevissimā, parvā, obtusa, breviter rimatā, densē liratā, ventricosissimā; aperturā edentulā, brevi, subobliquā, supernē quadratā, infrā rotundā.*

THE TURGID PUPA. Shell very short, small, obtuse, with a short notch, closely ridged, very ventricose; aperture toothless, short, rather oblique, square above, rounded below.

DESHAYES. Conch. de l'île de la Réunion.

Hab. Isl. Bourbon.



135.



136.



138.



137.



139.



a. 141.



b.



140.



141 c.



142.

P U P A.

PLATE XV.

Species 134. (Mus. Hanley.)

PUPA FERRARIA. *Pup. testā pareā, altā, cylindricā, ferrugineā; apice obtuso; anfractibus sex, concavis, tenuissimè costulatis, ultimo rimato; aperturā subquadratā, intūs quinqueplicatā, supernē prope suturam unidentatā.*

THE IRON PUPA. Shell small, high, cylindrical, ferruginous; apex obtuse; whorls six, convex, very finely ribbed, last notched; aperture subquadrate, with five plaited inside; one tooth above, near the suture.

LOWE. Pfeiffer, Mon. 1868.

Hab. Porto Santo.

Species 135. (Mus. Hanley.)

PUPA VINCTA. *Pup. testā subpyramidalatā, fuscocornēa, politā; apice obtuso; ultimo anfractu lato, longè rimato; aperturā parrā, subquadratā, columellā plicatā albā, tenui, elongatā, ultimo anfractu plicis duabus inaequalibus, arcuatis, superiori elongatissimā, instructis labio externo supernē sinuato, unidentato; laminā internā filiformi.*

THE BOUND PUPA. Shell rather pyramidal, horny brown, polished; apex obtuse; last whorl broad, with a long notch; aperture small, rather square, columella set with a white thin long plait, last whorl with two unequal, arched, the upper very long; outer lip sinuous above, with a tooth; internal lamina filiform.

LOWE. Pfeiffer, Mon. 1868, p. 21.

Hab. Madeira.

Species 136. (Mus. Hanley.)

PUPA SPINOSTOMA. *Pup. testā altā, cornēa, tenui, inaequaliter liratā; ultimo anfractu rimato et umbilicato, ad dorsi medium per laminam internam contracto, ad aperturam plicatā parvā, et plicatā*

suturali elongatissimè extenso, munito, columellā uniplicatā, labio externo supernē sinuato et unidentato.

THE SPHINX-MOUTHED PUPA. Shell high, horny, thin, unequally ridged; last whorl notched and umbilicated, contracted at the middle of the back by the internal lamina, furnished at the aperture with a small plait and a very far extended sutural plait; columella with one plait, outer lip with a sinus and a tooth above.

LOWE. Pfeiffer, Mon. 1868.

Hab. Madeira.

Species 137. (Mus. Hanley.)

PUPA CASSIDA. *Pup. testā brevi, ventricosā, rubrofuscā, dimidiatim albo-maculatā, tenuiter liratā, liris rectilīsculis; apice obtuso, anfractibus septem, brevissimis; ultimo brevi, usque ad medium albo-maculato, infra medium immaculato, levigata; aperturā subtrigonā, infra acuminatā, per plicas albas, validas, contractā.*

THE HELMET PUPA. Shell short, ventricose, red-brown, half white-spotted, finely ridged, ridges rather straight; apex obtuse, whorls seven, very short; last short, white-spotted as far as the middle; not spotted below the middle; smooth; aperture rather trigonal, acuminate below, contracted by white strong plaits.

LOWE. Pfeiffer, Mon. 1868, p. 373.

Hab. Madeira.

Species 138. (Mus. Hanley.)

PUPA ARMIFERA. *Pup. testā pallidā, cornēa, semi-pellucida, brevi, obtusa; anfractibus sex, brevibus, medianis inflatis, ultimo umbilicato; aperturā elevatā, brevi, intūs quadriplicatā.*

THE ARM-BEARING PUPA. Shell pale, horny, semi-pellucid, short, obtuse; whorls six, short; middle inflated, last umbilicated; aperture raised, short, four-plaited within.

PUPA.—PLATE XV.

SAY. Pfeiffer, Mon. 1868, p. 29.
Hab. N. America.

Species 139. (Mus. Hanley.)

PUPA CONCINNA. *Pup. testâ fuscâ, tenuissimè striatâ, brevi; apice obtuso; anfractibus sex, brevibus, medianis ventricosâ, ultimo longè rimato; aperturâ elevatâ, ploris quinque principalibus, cæteris minutis, suturali latissimè expansa, descendenti.*

THE NEAT PUPA. Shell brown, very finely striated, short; apex obtuse, whorls six, short, middle ventricose, last with a long notch; aperture raised, five principal plaits, others minute, sutural very broadly expanded descending.

LOWE. Pfeiffer, Mon. 1868, p. 310.

Hab. Madeira.

Species 140. (Mus. Hanley.)

PUPA PENTODON. *Pup. minutâ, cornâ levigatâ, brevi, ventricosâ, anfractibus tribus rotundis, aperturâ brevi, latiusculâ, dentata quinque, ad anfractum ultimum uno, ad columellam uno, ad marginem internum labii externi tribus, mediano longè producto.*

THE FIVE-TOOTHED PUPA. Shell minute, horny, smooth, short, ventricose; whorls five, one on the last whorl, one on the columella, three on the inner edge of the outer lip, middle long, produced.

SAY. Binney, Terrestrial Mollusca, p. 143.

P. curvidens, Gould.

P. Tappaniana, Ward.

Hab. North America.

Species 141. (Fig. a, b. Mus. Hanley.)

PUPA LAYARDI. *Pup. testâ levigatâ, fuscâ, vel albivitrâ; altâ, pyramidatâ, versus apicem attenuatâ, medio subventricosâ; anfractibus novem, convexiusculis, ultimo angustiusculo, longè rimato, ante aperturam subsoluto, producto, coarctato; aperturâ subovatâ, margine externo tenuissimâ, interno quinqueplicato, ploris laminatis, productis, medio approximatis.*

LAYARD'S PUPA. Shell smooth, brown, or glassy white; high, pyramidal, attenuated towards the apex, rather ventricose in the middle; whorls nine, rather convex, last rather narrow, with a long notch, a little uncoiled before the aperture, produced, narrowed; aperture ovate, outer edge very thin, inner five-plaited, plaits laminar, produced, nearly meeting in the middle.

BENSON. Ann. and Mag. Nat. Hist., 3 Ser. XIII. June, 1864.

Hab. Cape Bredasdorp.

Species 142. (Mus. Hanley.)

PUPA SHUTTLEWORTHI. *Pup. testâ minutâ, fuscâ, lœvi, brevi, ventricosâ; anfractibus quinque, ventricosâ, ultimo longè rimato; aperturâ parvâ, brevi, ad anfractum ultimum uniplicatâ.*

SHUTTLEWORTH'S PUPA. Shell minute, brown, smooth, short, ventricose; whorls five, ventricose, last with a long notch; aperture small, short, with a single plait on the body whorl.

ALBERS. Pfeiffer (Bulimus), Mon. 1868.

Hab. Columbia.



116.



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121



122

P U P A.

PLATE XVI.

Species 143. (Mus. Hanley.)

PUPA PIRREI. *Pup. testā albā, altā, levī; anfractibus septem, tribus superioribus brevibus, rotundis, polulis, quatuor inferioribus rectilateralibus, striatis, altis, ad suturam subangulatis, ultimo infra subangulato, rimato; aperturā rectā, perpendiculariter oblongā, callo suturali conspicuo, magno.*

PIRREE'S PUPA. Shell white, high, smooth; whorls seven, three upper short, round, polished, four lower straight-sided, striated, high, with a slight angle at the suture, the last angular below, notched; aperture straight, perpendicularly oblong, with a conspicuous large, sutural callus.

PFIEFFER. (Eunea.) Proc. Zool. Soc. 1854, p. 295.

Hab. Koondah Mountains, near Calicut.

Species 144. (Mus. Hanley.)

PUPA VARA. *Pup. testā albā, fusiformi, regulariter costatā; anfractibus septem, superioribus duobus rotundis levissimis, medianis inflatis, convexis, ultimo contracto, tortuoso; aperturā elevatā, auriformi, labio externo supra medium validissimè sinuatim plicato.*

THE VARA PUPA. Shell white, fusiform, regularly ribbed; whorls seven, upper two rounded, very smooth; middle inflated, convex, last contracted, tortuous; aperture raised, ear-shaped, outer lip very strongly sinuously plaited.

BENSON. (Eunea.) Ann. Nat. Hist. 1859.

Hab. Khasi Hills.

Species 145. (Mus. Hanley.)

PUPA CEYLANICA. *Pup. testā albā, levigatā, semipellucidā; anfractibus sex, breviusculis, prominentibus; aperturā elevatā, obliquè retrorsū, triplicatā, callo suturali conspicuo, margine reflexo.*

THE CEYLON PUPA. Shell white, smooth, semipellucid; whorls six, rather short, prominent; aperture raised, obliquely bent backwards, with three plaits, sutural callus conspicuous, margin reflected.

PFIEFFER. (Eunea.) Proc. Zool. Soc. 1855.
Hab. Ceylon.

Species 146. (Mus. Sir D. Barclay.)

PUPA BARCLAYI. *Pup. testā brevi, obtusā, subcylindricā, albā, obliquè costatā; anfractibus quinque, rectilateralibus, ultimo alto, infrā umbilicato et rimato; aperturā magnā, perpendiculariter oblongā, antice obliquè productā, plicā medianā anfractūs ultimi magnā, columellā edentulā, profundā.*

BARCLAY'S PUPA. Shell short, obtuse, subcylindrical, white, obliquely ribbed; whorls five, rectilateral, last high, umbilicated and notched below; aperture large, perpendicularly oblong, anteriorly obliquely produced, median plait of the last whorl large, columella toothless, deep.

H. ADAMS. Proc. Zool. Soc. 1868, Pl. IV.

Hab. Mauritius.

Species 147. (Mus. Hanley.)

PUPA LAPIDARIA. *Pup. testā, altā, cornēd, levī, versus apicem subpyramidalā, apice obtuso, supra medium et infra cylindricā; anfractibus septem, rectilateralibus, ultimo alto, profundè rimato; aperturā ovatā, albā, prominenter triplicatā, labio externo supra medium tumido.*

THE LAPIDARY PUPA. Shell raised, horny, smooth, rather pyramidal towards the apex, apex obtuse, cylindrical above the middle and below; whorls seven, straight-sided, last high, deeply notched; aperture ovate, white, with three prominent plates, outer lip tumid above the middle.

HUTTON. Journ. As. Soc. Beng. 1849.

Hab. Affghanistan.

Species 148. (Mus. Hanley.)

PUPA BICOLOR. *Pup. testā altissimā, hyalinā, albā; anfractibus septem, apicalibus tumidis, alteris subquadratis, ultimo alto, infrā subcontracto, rimato; aperturā subauriformi, conspicuā triplicatā, labio externo supra medium profundè sinuato, callo suturali conspicuo.*

THE TWO-COLOURED PUPA. Shell very high, glassy, white; whorls seven, apical tumid, others rather square, last high, a little contracted below,

PUPA.—PLATE XVI.

notched ; aperture rather auriform, conspicuously three-plaited, outer lip with a deep sinus above the middle, sutural callus conspicuous.

HUTTON. Journ. As. Soc. Beng. 1834.

Pupa mellita, Gould.

Hab. Mirzapore, Tavoy, Ceylon.

Species 149. (Mus. Sir D. Barclay.)

PUPA CERNICA. *Pup. testâ brevi, opacâ, sordidâ alba, crebrè liratâ, cylindrica; apice obtuso; anfractibus sex, superioribus brevissimis, alteris latiss., ultimo profundè rimato et umbilicato; apertura ad ultimum anfractum uniplicata.*

THE MAURITIAN. Shell short, opaque, dull white, closely ridged, cylindrical; apex obtuse; whorls six, upper very short, others wide, last deeply notched and umbilicated; aperture with a single plait on the last whorl.

A. ADAMS. Proc. Zool. Soc. 1868, Pl. IV.

Hab. Mauritius.

Species 150. (Mus. Hanley.)

PUPA SALWINIANA. *Pup. testâ latâ pyramidatâ, brevi, cornuatâ, apice acuminato, anfractibus sex, rapidè crescentibus, ultimo longè rimato; apertura ferè ad suturam ultimi anfractus elevata, subauriformi, anticè obliquè producto, prominenti quadriplicata, margine albo, labio externo supra medium sinuata.*

SALWIN'S PUPA. Shell broadly pyramidal, short, horny, apex acuminate; whorls six, rapidly increasing, last with a long notch; aperture raised almost to the suture of the last whorl, rather

auriform, anteriorly obliquely produced, with four prominent plaits, margin white, outer lip sinuous above the middle.

THEOBALD. Journ. As. Soc. Beng. 1870.

Hab. Shan States.

Species 151. (Mus. Hanley.)

PUPA PLICIDENS. *Pup. testâ brevi, latâ, corneo-subviridi, laevi, spirâ pyramidatâ, apice obtuso; anfractibus quatuor, rotundè prominentibus, ultimo magno, infrâ subangustatâ, longè rimata; aperiturâ obliquè subauriformi, validè dentato-plicata.*

THE TOOTHPLAITED PUPA. Shell short, broad, greenish-horny, smooth, spire pyramidal, apex obtuse; whorls four, roundly prominent, last large, rather narrow below with a long notch; aperture obliquely rather auriform, with strong tooth-plaits.

BENSON. Ann. Nat. Hist. 1849.

Hab. Himalaya.

Species 152. (Mus. Hanley.)

PUPA BATHYODON. *Pup. testâ parvâ, pyramidatâ, laevi, fuscâ, apice acuminato, anfractibus quinque, rotundis, ultimo profundè rimato; apertura aurantiâ, quinqueplicata, anticè obliquè producta.*

THE DEEP-TOOTHEO PUPA. Shell small, pyramidal, smooth, brown, apex acuminate; whorls five, rounded, last deeply notched; aperture orange, five-plaited, anteriorly obliquely produced.

BENSON. Ann. Nat. Hist. 1863.

Hab. Narbudda.

Pupa Pl. VII



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P U P A.

PLATE XVII.

Species 153. (Mus. Hanley.)

PUPA SCALARINA. *Pup. testā fuscā, fusiformi, profundē rimatā; spirā acuminatā; anfractibus quinque, angulatis, plicatis; ultimo ad medium contracto; aperturā auriformi, plicis tribus, labio externo supra medium sinuatim contracto.*

THE SCALARIFORM PUPA. Shell brown, fusiform, deeply notched; spire acuminate; whorls five, angular, plaited, last contracted in the middle; aperture ear-shaped, with three plaits, outer lip sinuously contracted above the middle.

GUNDLACH. Pfeiffer, Malak. Bl. 1860.

Hab. Sicily (?), Cuba.

Species 154. (Mus. Hanley.)

PUPA NITIDA. *Pup. testā parvā, brevi, subventricosā, ləvi, fuscā; anfractibus quinque, rotundis, brevibus, suturā profundā; aperturā brevi, edentulā.*

THE SHINING PUPA. Shell small, short, rather ventricose, smooth, brown; whorls five, round, short, suture deep; aperture short, without teeth.

ANTONELLI. Pfr. Mon. II. p. 335.

Hab. Greece.

Species 155. (Mus. Hanley.)

PUPA BOREALIS. *Pup. testā minutā, subdiaphanā, succinē; anfractibus quinque ad sex, altiusculis, subventricosis, ultimo rimato; aperturā brevi, dentibus minutissimis.*

THE BOREAL PUPA. Shell minute, a little transparent, amber; whorls five or six, rather high, rather ventricose, the last notched; aperture short, with very minute teeth.

MORELET. Journ. Conch. VII. 1858.

Hab. Kamtschatka.

Species 156. (Mus. Hanley.)

PUPA GRANUM. *Pup. testā elongato-fusiformi, fuscā, altā, angustā; anfractibus octo, altiusculis, superi-*

oribus versus apicem attenuatis, ultimo brevi, longè rimato; aperturā parvā, plicis circè quinque.

THE GRAIN PUPA. Shell elongate, fusiform, brown, high, narrow; whorls eight, rather raised, upper attenuated towards the apex, last short with a long notch; aperture small, plaits about five.

DRAPARNAUD. Conch. Terrest. et Fluv.

Hab. France, Spain, Greece, Italy, &c.

Species 157. (Mus. Hanley.)

PUPA FARINESII. *Pup. testā pyramidatā, altā, purpureo-fuscā, ləvi; anfractibus sex, gradatim crescentibus, converxiusculis, ultimo magno, ventricoso, longè rimato; aperturā ovatā, edentulā, margine tenui.*

FARINE'S PUPA. Shell pyramidal, raised, purple-brown, smooth; whorls six, gradually increased, rather convex, last large, ventricose, with long notch; aperture ovate, without teeth, margin thin.

DESMAREST. Rev. et Mag. Zool. XV. 1862.

Hab. Pyrenees.

Species 158. (Mus. Hanley.)

PUPA TRUNCATELLA. *Pup. testā albida, cylindrica, rectè liratā; anfractibus sex, inferioribus tribus subæqualibus, duobus apicalibus minutis, ultimo alto, cylindrico, breviter rimato et umbilicato.*

THE TRUNCATELLA PUPA. Shell whitish, cylindrical, straightly ridged; whorls six, lower three nearly equal, two apical minute, last raised, cylindrical; shortly notched and umbilicated.

PFEIFFER. Mon. Vol. IV. 1868.

Hab. Transylvania, Turkey.

Species 159. (Mus. Hanley.)

PUPA BIGRANATA. *Pup. testā cylindrica, minutā, brevi, fulvā, ləvi; anfractibus septem, medianis subæqualibus; ultimo breviter rimato; aperturā parvā, margine profundè incrassato, ultimo anfractu unidentato.*

PUPA.—PLATE XVII.

THE TWO-GRAINED PUPA. Shell cylindrical, minute, short; whorls seven, middle ones nearly equal, last shortly notched; aperture small, margin deeply thickened, last whorl with a single tooth.
ROSSMASLER. Pfir. Mon. II. p. 354.

Hab. Germany.

Species 160. (Mus. Hanley.)

PUPA ROWELLII. *Pup. testā minutā, fuscā, politā, ventricorā; anfractibus quatuor, ultimo et penultimo ventricosis, altis, ultimo longè rimato; aperturā subtrigonā, ploris dentiformibus tribus vel quatuor.*

ROWELL'S PUPA. Shell minute, brown, smooth, ventricose; whorls four, last and last but one ventricose, high, last with a long notch; aperture subtriangular, with three or four tooth-like plaita.

NEWCOMB. Ann. Lyc. New York, VII. 1861.

Hab. Oakland, California.

Species 161. (Mus. Hanley.)

PUPA CUPA. *Pup. testā breviter cylindrica, cornicū, apice obtuso; anfractibus quinque, brevibus, tribus inferioribus latis, levibus, ultimo profundē rimato,*

ad aperturam unidentato; aperturā parvā, subrotundā, margine profundē incrassato.

THE BUTT PUPA. Shell shortly cylindrical, horny, apex obtuse; whorls five, short, three lower broad, smooth, last deeply notched, with a single tooth at the aperture; aperture small, rather round, margin deeply thickened.

KÜSTER. Fide Hanley.

Hab. Switzerland.

Species 162. (Mus. Hanley.)

PUPA NITENS. *Pup. testā pareā, pallidē cornicā, subpyramidatā, apice obtuso; anfractibus quatuor, declivibus, ultimo magno, profundē rimato; suturi profundā; aperturā parvā, subquadratā, ploris quatuor, una ad anfractum ultimum productā, bifidā, una columnari, dualis intus labium externum instructis parris, rotundis.*

THE SHINING PUPA. Shell small, pale, horny, rather pyramidal, apex obtuse; whorls four, sloped, last large, deeply notched; suture deep, aperture small, rather square, with four plaita, one at the last whorl, produced, bifid, one columnar, two small, round, placed within the outer lip.

PEASE. Proc. Zool. Soc. 1860, p. 439.

Hab. Isl. Ebon, Marshall's Group.



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P U P A.

PLATE XVIII.

Species 163. (Mus. Sowb.)

PUPA MINUTISSIMA. *Pup. testā minutā, fuscā, cylindricā, levi, apice obtuso; anfractibus quinque, rotundis, tribus inferioribus subattenuatis, ultimo profundè rimato; aperturā parvā, subovatā, ad anfractum ultimum unidentata.*

THE VERY SMALL PUPA. Shell minute, brown, cylindrical, smooth, with obtuse apex; whorls five, rounded, three lower nearly equal, last with a deep notch; aperture small, rather oval, with a single tooth on the last whorl.

HARTMAN. Pfeiffer, Mon. 1868, p. 301.

Hab. Central Europe.

Species 164. (Mus. Hanley.)

PUPA MILLIUM. *Pup. testā minutā, cornēdā, subdiaphanā, politā, cylindricā, apice obtuso; anfractibus quatuor, inferioribus subequalibus; aperturā parvā, quinquepliatā.*

THE MILLET PUPA. Shell minute, horny, rather transparent, polished, cylindrical, apex obtuse; whorls four, the lower ones nearly equal; aperture small, five-plaited.

GOULD. Pfeiffer, Mon. 1868, p. 335.

Hab. North America.

Species 165. (Mus. Hanley.)

PUPA DECORA. *Pup. testā minutā, pallidā, cornēdā, subcylindricā, subdiaphanā, levi; anfractibus quinque, apicalibus subattenuatis, ultimo breviter rimato; aperturā parvā, quadridentata.*

THE DECOROUS PUPA. Shell minute, pale horny, sub-cylindrical, a little transparent, smooth; whorls five, apical ones rather attenuated, last shortly notched; aperture small, four-toothed.

GOULD. Otia Conchologica, p. 202.

Hab. North America.

Species 166. (Mus. Hanley.)

PUPA POTTEBERGENSIS. *Pup. testā sinistrorsā, pallidissimè rosed, subcylindricā, subventricosā, levi,*

apice obtuso, fusco; anfractibus novem, superioribus subattenuatis, alteris subequalibus, ultimo longè rimato, profundè umbilicato; apertura ad anfractum ultimum elevatā, prope marginem quinquepliatā, margine tenui.

THE POTTEBERG PUPA. Shell sinistral, very pale rose, rather cylindrical, rather ventricose, smooth, apex obtuse, brown; whorls nine, upper rather attenuated, the others nearly equal, last with a long notch, deeply umbilicated; aperture raised on the last whorl, five-plaited near the margin, margin thin.

KRAUSS. Pfeiffer, Mon. 1868, p. 297.

Hab. Cape of Good Hope.

Species 167. (Mus. Hanley.)

PUPA RECTA. *Pup. testā elongatā, cylindricā, angustā, levi, cornēdā, fusco-rubescēti trifasciatā, apice obtuso; anfractibus septem, duobus apicalibus parvis, alteris subequalibus, rectis, ultimo longe rimato; aperturā parvā, auriformi, plicis ad anfractum ultimum duabus, ad columellam unā, intus unā, elongatā, labio extero supra medium sinuatim incrassato.*

THE STRAIGHT PUPA. Shell elongated, cylindrical, narrow, smooth, horny, three-banded with reddish-brown, apex obtuse; whorls seven, two apical small, others nearly equal, straight, last with a long notch; aperture small, ear-shaped, plaits on the last whorl two, on the columella one, inside one elongated, outer lip sinuously thickened above the centre.

LOWE. Pfr. Mon. 1868, p. 309.

Hab. Madeira.

The whorls are banded with a vinous brown.

Species 168. (Mus. Hanley.)

PUPA MONTICOLA. *Pup. testā brevi, cylindricā, crebrè liratā, medio anfractuum et ad suturam rubro fasciatā; anfractibus sex, apicalibus duobus obtusissimè compressis, alteris subequalibus, ultimo ad medium subcompresso, longissime rimato; aper-*

PUPA.—PLATE XVIII.

turbā angustā, subovatā, ad anfractum ultimum intus uniplicatā, ad marginem prop̄ suturam plicā callosā suprā infrāque extensā instructā, labio externo intis biplicato.

THE MOUNTAIN PUPA. Shell short, cylindrical, closely ribbed, banded with red in the middle and at the suture of the whorls; whorls six, two apical very bluntly flattened, the others nearly equal, last rather compressed in the middle, with a very long notch; aperture narrow, subovate, with a single plait within on the body whorl, near the suture at the margin set with a callous plait extended over and under, outer lip with two inner plaits.

LOWE. Pfr. Mon. 1868, p. 311.

Hab. Porto Santo, Madeira.

Species 169. (Mus. Hanley.)

PUPA PLANTI. *Pup. testā ventricosā, tenui, subdianaphanā, albidiā, tenuiter obliquè liratā, apice obtuso; anfractibus septem, latis, convexiūsculis, ultimo breviter rimato, aperture latere subcompresso; aperturā brevi, latā, callo suturali acuto, plicā columellari internā latā, laminatā.*

PLANT'S PUPA. Shell very ventricose, thin, subdianaphanous, whitish, finely obliquely ridged, apex obtuse; whorls seven, broad, rather convex, last shortly notched, rather flattened on the side of the aperture; aperture short, broad, sutural callus sharp, columellar plait broad, laminated.

PFEIFFER. Proc. Zool. Soc.

Hab. Port Natal.

Species 170. (Mus. Hanley.)

PUPA SAXICOLA. *Pup. testā minutā, subcylindrica, nitenti, subdiaphanā, apice obtuso; anfractibus quatuor, ultimo magno, longè rimato; aperturā subovatā, plicis ad anfractum ultimum duabus, columellari undā, intis dualibus parvis, margine angusto, albo.*

THE ROCK-INHABITING PUPA. Shell minute, greenish-

horny, subcylindrical, shining, rather transparent, apex obtuse; whorls four, the last large, with a long notch; aperture rather oval, with two plaits on the last whorl, one columellar and two small within, margin narrow, white.

LOWE. Pfr. Mon. 1868, p. 321.

Hab. Madeira.

Species 171. (Mus. Hanley.)

PUPA IRRIGUA. *Pup. testā fusco-corneā, lēvigatā, subcylindrica, supernè subattenuatā; anfractibus septem, suturā profundā separatis, ultimo longe rimato; aperturā subauriformi, supernè cuneatā, supra medium contractā, callo suturali et plicā ultimi anfractūs valde elongatis, plicā internā rātidā, plicā columellari elongatā, declivi.*

THE BROOK PUPA. Shell brown-horn, smooth, rather cylindrical, rather attenuated above; whorls seven, separated by a deep suture, last with a long notch; aperture partly auriform, cuneate above, contracted above the middle, sutural callus and plait of the last whorl much elongated, internal plait strong, columellar plait elongated, sloped downwards.

LOWE. Pfr. Mon. 1868, p. 321.

Hab. Madeira.

The plaits in the mouth seem to fill it up by their great extension.

Species 172. (Mus. Hanley.)

PUPA EDENTULA. *Pup. testā parvā, cornēa, brevi, politā, semipellucidā, spirā versus apicem paulò attenuatā; anfractibus septem, rotundis, ultimo breviter rimato; aperturā brevi, edentulā, margine tenui.*

THE TOOTHLESS PUPA. Shell small, horny, short, polished, semipellucid, spire a little attenuated towards the apex; whorls seven, rounded, last shortly notched; aperture short, without teeth, margin thin.

DRAPARNAUD. Moll. Terr. et Fluv.

Hab. Europe.



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P U P A.

PLATE XIX.

Species 173. (Mus. Hanley.)

PUPA TANTILLA. *Pup. testū minutā, ventricosā, fuscā, brevi; anfractibus quatuor, brevibus, ventricosis, rotundis, ultimo majusculo, infrā umbilicato; aperturā obliquā, subauriformi, quadridentatā, labio externo supra medium tumido, sinuato.*

THE TINY PUPA. Shell minute, ventricose, brown, short; whorls four, short, ventricose, round, last rather large, umbilicated below; aperture oblique, rather auriform, four-toothed, outer lip tumid and sinuated above the middle.

GOUIN. (Vertigo) Pfir. Mon. III.

Hab. Tahiti.

Species 174. (Mus. Hanley.)

PUPA ELEGANTULA. *Pup. testū albā, pellucidā, clavatā, supernè obtusā, ventricosā, infrā gradutim attenuatā; anfractibus sex, apicali planulato, ultimo rimato, contracto; aperturā subtrigonā, callo suturali conspicuo.*

THE ELEGANT LITTLE PUPA. Shell white, pellucid, club-shaped, obtuse above, ventricose, gradually attenuated below; whorls six, apical flattened, last notched, contracted; aperture subtriangular with conspicuous sutural callus.

PFYIFFER. Proc. Zool. Soc. 1846, p. 185.

Hab. Liberia.

A curiously formed little shell, very thick towards the apex, and gradually tapering downwards.

175. (Mus. Hanley.)

PUPA ANGUSTIOR. *Pup. testū minutā, sinistrorsā, fulvā; anfractibus quinque, convexis, ultimo breviter umbilicato; aperturā parvā, latā, triplicatā, labio externo supra medium sinuato et dentato-plicatā.*

THE NARROW PUPA. Shell minute, sinistral, fulvous, whorls five, convex, last shortly umbilicated; aperture small, broad, three-plaited, outer lip sinuous above the middle, with a tooth plait.

JEFFREYS. (Vertigo) Pfir. Mon. 1868, p. 386.

Vertigo Venetziī, Charpentier.

Vertigo hamata, Held.

Hab. Britain, France, Germany, Spain, &c.

Species 176. (Mus. Hanley.)

PUPA MENKEANA. *Pup. testū breviāsculā, albida, tenuiter et regulariter liratā, ventricosā, apice obtuso; anfractibus septem, medianis ventricosis, ultimo longè rimato, infrā contracto, dorso post apertura marginem contracto et profundè foeculato; apertura subquadratā, intus et prope marginem latè et profundè plicatā, margine reflexo, expanso.*

MENKE'S PUPA. Shell rather short, whitish, finely and regularly ridged, ventricose, apex obtuse: whorls seven, middle ventricose, last with a long notch, contracted below, contracted and deeply pitted at the back, behind the margin of the aperture; aperture subquadrate, within and near the margin broadly and deeply plaited, margin reflected, expanded.

PFYIFFER. (Azeca) Mon. 1868, p. 255.

Hab. Central Europe.

In the later monographs, Pfeiffer seems to have mixed up this shell with the well-known European *Azeca tridens*, with which it has little affinity.

Species 177. (Mus. Hanley.)

PUPA CAPITATA. *Pup. testū albida, semipollucida, cylindrica, brevi, prope apicem inflata; anfractibus quinque, obliquā, tenue, liratis, ultimo oblique profunde rimata, infrā rimam tumido et contractate; apertura subauriformi, callo contracta, imo dentato-plicata, glabri, naturali magni, expanso, margine reflexo et expanso.*

THE HEADED PUPA. Shell whitish, semipollucid, cylindrical, short, inflated near the apex; whorls five, obliquely finely ridged, last obliquely deeply notched, tumid and partly keeled behind the notch; aperture rather ear-shaped, contracted

PUPA.—PLATE XIX.

without, tooth-plaited within, sutural plait large, expanded, margin reflected and expanded.

GOULD. —? (quoted by Hanley.)

Hab. Cape Patmos.

Species 178. (Mus. Hanley.)

PUPA FUNICULA. *Pup. testā altā, cylindricā, solidā, subroseā, oblique liratā; apice obtuso; anfractibus sex, rectiūsculis, medianis subæqualibus, ultimo obtusissimè angulatō vis rimato; aperturā subquadratā, edentulā; marginereflexo, subexpanso; columellā latā.*

THE FUNNEL PUPA. Shell high, cylindrical, solid, rather pink, oblique-ridged, apex obtuse; whorls six, rather straight, middle nearly equal, last very obtusely angular, scarcely notched; aperture rather square, toothless; margin reflected, rather expanded; columella broad.

VALENCIENNES. Pfr. Mon. 1868, p. 287.

Hab. Isle of France.

Species 179. (Mus. Hanley.)

PUPA CYCLOSTOMA. *Pup. testā brevi, ventricosā, coctis rectiūsculis sculptā, subroseā, apice obtusiusculo, medio inflato; anfractibus sex, brevibus, ultimo profundiē rimato; aperturā subovatā, columellā et anfractū ultimo implicatis; margine albo reflexo, rotundo.*

THE ROUND-MOUTHED PUPA. Shell short, ventricose, sculptured with rather straight ribs, rather pink, apex rather obtuse, inflated in the middle; whorls six; short, last deeply notched; aperture rather ovate, columella and last whorl single-plaited; margin white, reflected, round.

KÜSTER. Pfeiffer, Mon. 1868, p. 293.

Pupa Küsteri, Pfeiffer (var.)

Hab. Cuba.

Species 180. (Mus. Hanley.)

PUPA LACHRYMA. *Pup. testā albida, pellucidā, clavatā, cylindrica, supernō tumida, infrā recta, apice obtuso; anfractibus sex, ultimo alto, infrā oblique breviter rimato; aperturā trigona, plica suturali et plicis dentiformibus tribus conspicua, crassiss.*

THE TEAR PUPA. Shell whitish, pellucid, club-shaped, cylindrical, tumid above, straight below, apex obtuse; whorls six, last high, with a short oblique notch below; aperture trigonal, sutural plait and three dentiform plaits conspicuous, thick.

AUCT. —? (Mus. Brit.)

Hab. Liberia.

Species 181. (Mus. Hanley.)

PUPA TERES. *Pup. testā altā, cylindrica, eleganter oblique liratā, albā, opacā, supernō tumida, infrā subattenuata; anfractibus septem, inferioribus angustioribus, ultimo arcuatim rimato, suturā profundā; aperturā edentulā, perpendiculariter oblongā.*

THE LONG-ROUNDED PUPA. Shell raised, cylindrical, elegantly obliquely ridged, white, opaque, tumid above, slightly attenuated below; whorls seven, lower narrower, last with a curved notch, suture deep; aperture toothless, perpendicularly oblong.

PFEIFFER. Mon. 1868, p. 297.

Helix palangula, Ferussac.

Hab. Mauritius.

Species 182. (Mus. Hanley.)

PUPA KURRI. *Pup. testā sinistrorsā, latè pyramidalis, levī, caruleo-albida, apice acuminata; anfractibus octo, gradatim crescentibus, ultimo profundè et longè rimato, infra rimam tumido et subcarinato; aperturā elevatā, subtrigona, intus quadriplicato callo suturali oblique elongato, laminato, margine tenui, vis reflexo.*

KURR'S PUPA. Shell sinistral, broadly pyramidal, smooth, bluish-white, apex acuminate; whorls eight, gradually increasing, last with a deep long notch, tumid and slightly keeled below the notch; aperture raised, subtrigonal, with four plaits within sutural callus obliquely elongated, laminar, margin thin, scarcely reflected.

KRAUSS. Pfeiffer, Mon. 1868, p. 297.

Pupa ovularis, Kurr.

Pupa fonticola, Deshayes.

Hab. Cape of Good Hope.





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P U P A.

PLATE XX.

Species 183. (Mus. Brit.)

PUPA ANTIVERTIGO. *Pup. testā minutā, dextrali, brevi, ventricosā, levigatā; anfractibus quaternis; apice obtuso; aperturā trigonā, in frād acuminatā, dentibus octonis aut novenis, utroque latere tribus.*

THE OPPOSITE WHORLED PUPA. Shell minute, dextral, short, ventricose, smooth; whorls four; apex obtuse; aperture trigonal, acuminate below, teeth, eight or nine, three on each side.

DRAPARNAUD. 'Tabl. des Mollusques de la France,' p. 59.

Pupa Octodentata. Hartman.

Hab. Great Britain, Ireland, and France.

The aperture is triangular, with two or three teeth on each side between the angles. The small shells belonging to the group named 'VERTIGO,' by some authors being sinistral, this species, exactly resembling them in other respects, receives the above name because it is dextral.

Species 184. (Mus. Hanley.)

PUPA MODICA. *Pup. testā ovatā; pallidē fulvā, parvā, sublevigatā; anfractibus quinis, altiusculis, convexis, suturā profundā; ultimo anfractu oblongo, rimato; aperturā subovatā, margine simplici, reflexo.*

THE UNPRETENDING PUPA. Shell ovate, pale fulvous, small, rather smooth; whorls five, rather elevated, convex, with deep suture; last whorl oblong, creased; aperture subovate; margin simple, reflected.

Gould. —?

Hab. Florida.

A Bulimus-like little shell.

Species 185. (Mus. Brit.)

PUPA SUBSTRIATA. *Pup. testā minutā, fusca, dextrali, breviter cylindrica, latā, obliquè striatā, anfractibus quaternis, brevibus; aperturā subauriformi, margine reflexo, albo, sex-dentata.*

THE SUBSTRIATED PUPA. Shell minute, brown, dextral, shortly cylindrical, broad, obliquely striated, whorls four, short; aperture somewhat auriform, margin reflected, white, six-toothed.

GRAY. (Vertigo) Brit. Mus. MS.

Hab. Great Britain and Germany.

Species 186. (Mus. Brit.)

PUPA PUSILLA. *Pup. testā minutā sinistrali, fusco-fumosa, lœvi; anfractibus obliquis, apicali obtuso, ultimo subdeclivi; aperturā sinuatim trigonā, margine externo bidentato, interno supernè bidentato, columellā uniplicatā.*

THE DWARF PUPA. Shell minute, sinistral, smoky brown, smooth; whorls oblique, apical obtuse, last a little sloped; aperture sinuously trigonal, outer margin with two teeth, inner with two teeth above, columella with one fold.

MÜLLER. Pfieffer Mon. Hel. VI. p. 336.

Pupa vertigo. Draparnaud.

Hab. Germany, Spain, England.

Species 187. (Mus. Brit.)

PUPA WALBERGI. *Pup. testā subturbinata, cylindrica, albā, lœvi, semipellucida, anfractibus septenis, apicalibus duobus depresso, alteris subequalibus, ultimo angustato, breviter rimato; aperturā brevi, subauriformi; plicā suturali magnā, dente columellarī prominenti, labio externo tridentato.*

WALBERG'S PUPA. Shell rather turbinated, cylindrical, white, smooth, semipellucid; whorls seven; apical two depressed, others nearly equal, last narrow, shortly creased; aperture short, rather auriform; sutural plait large, columellar tooth prominent, outer lip tridentate.

PFIEFFER. Mon. Hel. Vol. VII.

Hab. S. Africa.

Species 188. (Mus. Hanley.)

PUPA DESHAYESII. *Pup. testā parvā, albā, cylindrica-subturbinata; anfractibus octonis, brevibus costatis; ultimo profundiè rimato; aperturā sursum accedit, brevi; plicā suturali conspicuā.*

DESHAYES'S PUPA. Shell small, white, cylindrical, slightly turbinated; whorls eight, short, ribbed; last deeply creased; aperture turned upwards, short; sutural plait conspicuous.

ADAMS. —?

Hab. —?

PUPA.—PLATE XX.

Species 189. (Mus. Hanley.)

PUPA DORMEYERI. *Pup. testā cylindricā, turbinatā, cornēd, lēvi; anfractibus novēnīs, apicalibus parvīs, sequentibus superioribus latīs, inferioribus gradatim angustatis, ultimo profundē rimato, aperturā subquadratā, margine albo, profundo, plicā suturali prominenti.*

DORMEYER'S PUPA. Shell cylindrical, turbinated, horny, smooth; whorls nine, apical small, following upper wide, lower gradually narrowed, last deeply creased; aperture subquadrate, margin white, deep, sutural plait prominent.

PARREYS — ?

Hab. Greece.

Species 190. (Mus. Hanley.)

PUPA TRICOLOR. *Pup. testā pruinosā, subpyramidalatā, lēvi, apice fusco, acuminato; anfractibus octonis, converiūsculis, tribus inferioribus ultis; ultimo profunlē rimato, umbilicato, infrā umbilicum carinato; aperturā subovalatā, margine fulvo, interupto, plicā suturali conspicuā; plicis internis utrinque duabus.*

THE THREE-COLOURED PUPA. Shell plum-coloured, subpyramidal, smooth, apex brown, acuminated; whorls eight, rather convex, three lower high; last deeply creased, umbilicated, keeled

below the umbilicus, aperture subovate, margin fulvous, interrupted, sutural plait conspicuous, inner plaits two on each side.

VILLA. — ?

Hab. Lombardy.

Species 191. (Mus. Hanley.)

PUPA FUSCA. *Pup. testā minutā, breviter cylindricā, fuscā, tenuiter liratā, anfractibus senis convexis, laminis internis tenuibus, numerosis, plicā suturali proximā, albā, elongatā.*

THE BROWN PUPA. Shell minute, shortly cylindrical, brown, with thin ridges; whorls six, convex; inner lamina thin, numerous, sutural plait approximate, white, elongated.

LOWE. De Paiva Mon. Moll. p. 130.

Hab. Madeira.

Species 192. (Mus. Hanley.)

PUPA FALLAX. *Pup. testā oblongo-ovatā, fuscā, lēvi, subacuminatā; anfractibus senis; aperturā ovalatā, edentulā.*

THE DECEPTIVE PUPA. Shell oblong-ovate, brown, smooth, a little acuminated; whorls six; aperture ovate, toothless.

SAY. Pfr. Mon. Hel. II. p. 309.

Bulinus exiguus. Reeve.

Hab. N. America.

Pupa *Lapidaria* and Pupa *Variabilis* having been inadvertently repeated, the two following species take their numbers.

Species 152. (Fig. 152,* Plate XX., Mus. Brit.)

PUPA PYGMÆA. *Pup. testā minutā, brevissimē cylindricā, ventricosā, lavi; anfractibus quaternis aut quinīs; aperturā subovalatā, margine albo sex-dentata.*

THE PYGMY PUPA. Shell minute, very shortly cylindrical, ventricose, smooth; whorls four or five; aperture subovate, margin white, six-toothed.

DRAPARNAUD. 'Tab. des Mollusques de France.'

Pupa quinque-dentata. Hartman.

Vertigo alpestris. Ferrussac.

Hab. Britain and Central Europe.

Species 32. (Fig. 32,* Plate XX. Mus. Brit.)

PUPA ANGLICA. *Pup. testā minutā, cornēd, subpyramidalatā, lēvi; anfractibus senis; aperturā subtrigonatā, intūs pliratā, margine albo, labio externo suprā medium sinuatim incrassato; plicā suturali parvo.*

THE ANGLICAN PUPA. Shell minute, horny, somewhat pyramidal, smooth; whorls six; aperture subtrigonal, plaited within, margin white, outer lip sinuously thickened above the middle; sutural plait small.

FERRUSSAC — ?

Hab. Britain and other parts of Europe.

Errata.—For *SEPTEMDENTATUS* (Species 119), read *BINGENS*, Sowerby.

For *VARIABILIS* (Species 32), read *MULTIDENTATA*, Olivier.

P U P A.

	Plate.	Species.		Plate.	Species.
<i>acutula</i> , Parreys	XIII.	115	<i>conica</i> , Rossmässler	XI.	101
<i>alpicola</i> , Charpentier	XII.	107	<i>contracta</i> , Gulman	VIII.	67
<i>alvearea</i> , Dillwyn	III.	23	<i>coronata</i> , Stüder	XI.	102
<i>anconostoma</i> , Lowe	XII.	108	<i>corticaria</i> , Say	XII.	106
<i>anglica</i> , Ferrussac	XX.	32*	<i>critica</i> , Zellins	XI.	102
<i>angustior</i> , Jeffreys	XIX.	175	<i>crassilabris</i> , Shuttleworth	II.	14
<i>antivertigo</i> , Draparnaud	XX.	183	<i>cupa</i> , Küster	XVII.	161
<i>Antonii</i> , Küster	II.	9	<i>curta</i> , Potiez	V.	44
<i>Arigonis</i> , Rossmässler	XI.	97	<i>curvidens</i> , Gould	XV.	140
<i>armifera</i> , Say	XV.	138	<i>cyclostoma</i> , Küster	XIX.	179
<i>avanica</i> , Benson	VII.	60	<i>cylindrelloidea</i> , Stolickza	VII.	64
<i>avena</i> , Draparnaud	VIII.	70	<i>cylindrellus</i> , Adams	XIII.	122
<i>avenacea</i> , Bruguière	VIII.	70	<i>cylindrifica</i> , Stüder	IV.	25
<i>bacillus</i> , Pfeiffer	IX.	80	<i>dealbata</i> , Webb	VI.	52
<i>Badia</i> (muscorum)	IX.	77	<i>decora</i> , Gould	XVIII.	165
<i>Barclayi</i> , H. Adams	XVI.	146	<i>decumana</i> , Poey	II.	11
<i>bathyodon</i> , Benson	IV.	33	<i>Deshayesii</i> , Adams ?	XX.	188
<i>Bergerii</i> , Rothman	V.	37	<i>Desmazuresi</i> , Crosse	X.	91
<i>bicallosus</i> ? Irw.	X.	87	<i>detrita</i> , Shuttleworth	III.	17
<i>bicolor</i> , Button	XVI.	148	<i>doliolum</i> , Bruguière	XI.	102
<i>bidentata</i> , Pfeiffer	IX.	77	<i>dolium</i> , Draparnaud	VII.	55
<i>bifilaris</i> , Mousson	X.	90	<i>Dormeyeri</i> , Parreys ?	XX.	189
<i>bigranata</i> , Rossmässler	XVII.	159	<i>Dupontiana</i> , Crosse	VIII.	71
<i>biplicata</i> , Rossmässler	XIII.	130	<i>Dussumeria</i> , Reeve	IX.	84
<i>Blanfordi</i> , Austin	IV.	30	<i>edentula</i> , Draparnaud	XVIII.	172
<i>Borealis</i> , Morelet	XVII.	155	<i>elata</i> , Schmidt	V.	39
<i>Bourguignati</i> , Deshayes	XIV.	128	<i>elegantula</i> , Pfeiffer	XIX.	174
<i>Bryanti</i> , Pfeiffer	I.	1	<i>exigua</i> , Mousson	VIII.	69
<i>calathiscus</i> , Lowe	XIII.	121	<i>exigua</i> , Reeve	XX.	192
<i>callifera</i> , Morelet	IX.	78	<i>Fabreana</i> , Crosse	IX.	85
<i>capitata</i> , Gould ?	XIX.	177	<i>fallax</i> , Say	XX.	192
<i>carinata</i> , Gould	VIII.	66	<i>Fanalensis</i> , Lowe	XII.	108
<i>caspia</i> , Pfeiffer	XI.	95	<i>farinesii</i> , Desmarest	XVII.	157
<i>cassida</i> , Lowe	XV.	137	<i>fartooides</i> , Theobald	IV.	26
<i>cernica</i> , A. Adams	XVI.	149	<i>ferraria</i> , Lowe	XV.	134
<i>Ceylonica</i> , Pfeiffer	XVI.	145	<i>Ferrarii</i> , Porro	XIV.	130
<i>Charpentieri</i> , Shuttleworth	XII.	109	<i>filosa</i> , Theobald	VII.	59
<i>Chloris</i> , Crosse	VIII.	78	<i>fonticola</i> , Deshayes	XIX.	182
<i>chrysalis</i> , Pfeiffer	I.	5	<i>framentum</i> , Draparnaud	V.	44
<i>clavatula</i> , Lamarck	IX.	82	<i>funicula</i> , Valenciennes	XIX.	178
<i>concamerata</i> , Wood	V.	41	<i>fartooides</i> , Theobald	IV.	26
<i>concinna</i> , Lowe	XV.	139	<i>fusca</i> , Lowe	XX.	191

PUPA.

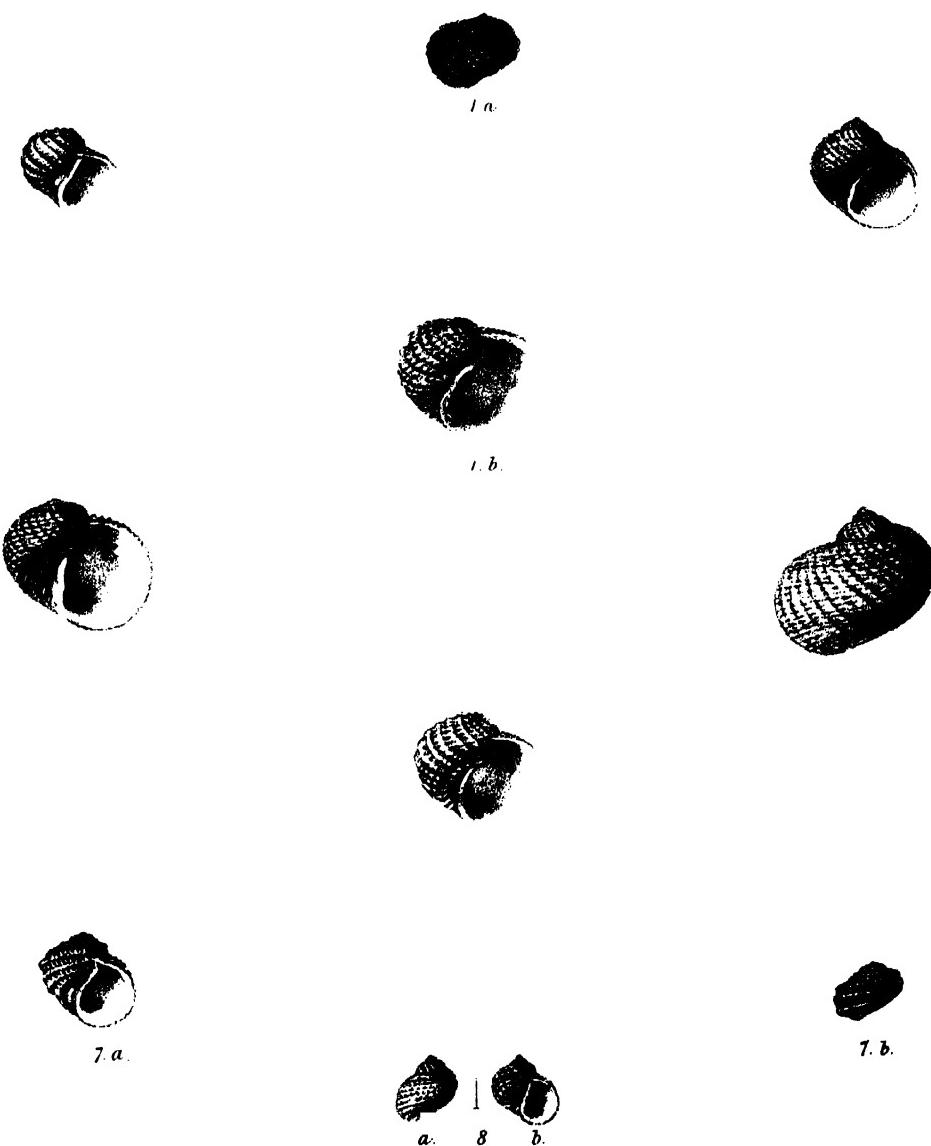
	Plate.	Species.		Plate.	Species.
<i>fusus</i> , Bruguière	III.	23	<i>molita</i> , Gould	XVI.	148
<i>glans</i> , Küster	I.	2	<i>Mondrainii</i> , Adams	XIV.	127
<i>Gonidomus</i> , Adams	V.	38	<i>monticola</i> , Lowe	XVIII.	168
<i>Gouldii</i> , Binney	XII.	105	<i>Moricandi</i> , Fer	VIII.	65
<i>granum</i> , Draparnaud	XVII.	156	<i>Mouliniana</i> , Dupuy	XII.	109
<i>gularis</i> , Rossmässler	VI.	46	<i>Muhlfeldti</i> , Küster	VIII.	68
<i>guttula</i> , Porro	XIII.	130	<i>multicostata</i> , Küster	II.	13
<i>hamata</i> , Held	XIX.	175	<i>multidentata</i> , Olivier	V.	42
<i>holostoma</i> , Morelet	IX.	88	<i>mumia</i> , Bruguière	I.	3
<i>hordeum</i> , Ferrussac	VIII.	70	<i>muniola</i> ? Pfeiffer	I.	3
<i>idolum</i> , Mentze	V.	41	<i>muscerda</i> , Benson	VII.	56
<i>incerassata</i> , Sowerby	I.	6	<i>muscorum</i> , Linnaeus	IX.	77
<i>indica</i> , Pfeiffer	VII.	63	<i>mtubilis</i> , Ferrussac	V.	42
<i>infanda</i> , Shuttleworth	II.	11	<i>Newtoni</i> , Adams	VI.	51
<i>intersecta</i> , Deshayes	XIV.	129	<i>niso</i> , Pfeiffer	VI.	53
<i>iostoma</i> , Pfeiffer	III.	22	<i>nitens</i> , Pease	XVII.	162
<i>irrigua</i> , Lowe	XVIII.	171	<i>nitida</i> , Antonelli	XVII.	154
<i>juniperi</i> , Fleming	IV.	25	<i>Novazelandica</i> , Pfeiffer	XIV.	126
<i>Kokielii</i> , Rossmässler	VIII.	65	<i>nucifraga</i> , Parreys	X.	93
<i>Kurrii</i> , Krauss	XIX.	182	<i>oblongata</i> , Rossmässler	XII.	111
<i>Küsteri</i> , Pfeiffer	XIX.	179	<i>obscura</i> , Muhlfeldt	VIII.	68
<i>lachryma</i> , Auct.	XIX.	180	<i>obstructa</i> , Gassies	IV.	34
<i>Layardi</i> , Benson	XV.	141	<i>octodentata</i> , Hartman	XX.	183
<i>lapidaria</i> (<i>pygmæa</i>)	XX.	152	<i>ovularis</i> , Olivier	XIII.	117
<i>lapidaria</i> , Hutton	XVI.	147	<i>pachygastra</i> , Zeigler	XII.	111
<i>Lienardiana</i> , Crosse	X.	94	<i>pagoda</i> , Ferrussac	V.	41
<i>Lieversi</i> , Mousson	IV.	29	<i>pagodula</i> , Desmarest	XI.	98
<i>Lifouana</i> , Gassies	IV.	28	<i>Paitensis</i> , Crosse	X.	88
<i>Lincolnensis</i> , Cox	XI.	104	<i>palanga</i> , Lesson	VI.	48
<i>longurio</i> , Crosse	XI.	96	<i>palangula</i> , Ferrussac	XIX.	181
<i>Lusitanica</i> , Rossmässler	XII.	113	<i>pamporodon</i> , Benson	XIII.	120
<i>Lyonetii</i> , Montfort	IX.	81	<i>pellucida</i> , Pfeiffer	XII.	110
<i>Lyonetianus</i> , Pfeiffer	IX.	81	<i>pentodon</i> , Say	XV.	140
<i>Marginata</i> , Draparnaud	IX.	77	<i>phasianus</i> , Dubois	IV.	27
<i>Mariei</i> , Crosse	IV.	31	<i>Philippii</i> , Cantraine	VIII.	69
<i>maritima</i> , Pfeiffer	III.	20	<i>Pirreci</i> , Pfeiffer	XVI.	143
<i>marmorata</i> , Pfeiffer	II.	10	<i>planguncula</i> , Benson	VII.	57
<i>Martensii</i> , Weinland	II.	15	<i>Planti</i> , Pfeiffer	XVIII.	169
<i>Martiniana</i> , Küster	II.	16	<i>plicidens</i> , Benson	XVI.	151
<i>megachilos</i> , Albers	XI.	97	<i>Polyodon</i> , Draparnaud	X.	92
<i>Menkeana</i> , Pfeiffer	XIX.	176	<i>Pottebergensis</i> , Krauss	XVIII.	166
<i>metablita</i> , Crosse	VIII.	71	<i>procera</i> , Gould	VIII.	66
<i>microstoma</i> , Pfeiffer	II.	8	<i>producta</i> , Adams	XIII.	119
<i>microtragus</i> , Parreys	V.	35	<i>proteus</i> , Gundlach	I.	4
<i>millium</i> , Gould	XVIII.	164	<i>pupula</i> , Deshayes	XIV.	132
<i>mimula</i> , Benson	VII.	61	<i>pusilla</i> , Müller	XX.	186
<i>minutissima</i> , Hartman	XVIII.	163	<i>pygmæa</i> , Draparnaud	XX.	152*
<i>modesta</i> , A. Adams	XII.	114	<i>quadridens</i> , Müller	V.	40
<i>modiolus</i> , Ferrussac	VI.	54	<i>quinquedentata</i> , Born	VI.	49
<i>modica</i> , Gould	XX.	184	<i>quinquelamellata</i> , Risseo	V.	48

PUPA.

	Plate.	Species.		Plate.	Species.
<i>quinqueplicata</i> , Mühlfeldt	VIII.	68	<i>spinosa</i> , Ferrussac	XI.	102
<i>ularis</i> , Rossmäuser	VI.	46	<i>spreta</i> , Reeve	VI.	50
<i>Raymondi</i> , Bourgainville.....	X.	87	<i>stenophylis</i> , Benson	XIV.	125
<i>recta</i> , Lowe	XVIII.	167	<i>Strangi</i> , Pfeiffer	XI.	100
<i>rhodia</i> , Pfeiffer	XIII.	115	<i>striatella</i> , Ferrussac	III.	18
<i>ringens</i> , Sowerby	XIII.	118	<i>striaticostata</i> , Morelet	XIII.	120
<i>ringicula</i> , Michaud	X.	92	<i>substriata</i> , Gray	XX.	183
<i>Rodriguezensis</i> , Crosse	VIII.	72	<i>sulcata</i> , Bruguière	V.	38
<i>Rossmäsleri</i> , Schmidt	XIV.	124	<i>tantilla</i> , Gould	XIX.	173
<i>Rowellii</i> , Newcomb	XVII.	160	<i>Tuppeniana</i> , Mard.	XV.	140
<i>rubicunda</i> , Mentse	III.	23	<i>teres</i> , Pfeiffer	XIX.	181
<i>radis</i> , Pfeiffer	III.	21	<i>tricolor</i> , Villu —?	XX.	190
<i>rupestris</i> , Philippi	XI.	103	<i>tricuspidis</i> , Rossmäuser	V.	36
<i>rupicola</i> , Say	IX.	75	<i>tridens</i> , Müller	VI.	47
<i>Rüsei</i> , Adams	XII.	110	<i>truncatella</i> , Pfeiffer	XVII.	158
<i>Sagraiana</i> , Pfeiffer	III.	19	<i>tumida</i>	I.	6
<i>Salemanensis</i> , Blanford	VII.	62	<i>turgidula</i> , Deshayes	XIV.	133
<i>Salwiniana</i> , Theobald	XVI.	150	<i>umbilicata</i> , De Paiva	XII.	108
<i>Saulceyi</i> , Bourgainville.....	X.	86	<i>unidentata</i> , Pfeiffer	IX.	77
<i>saxicola</i> , Lowe	XVIII.	170	<i>uva</i> , Linnaeus	I.	7
<i>scalarina</i> , Gundlach	XVII.	153	<i>uvula</i> , Deshayes	XIII.	116
<i>scapus</i> , Parreys	X.	87	<i>vara</i> , Benson	XVI.	144
<i>sculpta</i> , Benson	VII.	58	<i>variabilis</i> , Draparnaud	V.	42
<i>secale</i> , Draparnaud	IV.	25	<i>variabilis</i> (multidentata)	XII.	112
<i>seductilis</i> , Zeigler	VI.	53	<i>Venetia</i> , Charpentier	XIX.	175
<i>septemdentata</i> , Rothman	VI.	45	<i>ventricosa</i> , Adams	XIV.	131
<i>septemdentata</i> (ringens) ..	XIII.	118	<i>ventrosa</i> , Heynem	XII.	109
<i>servilis</i> , Gould	XII.	110	<i>versipellis</i> , Ferrussac	IX.	79
<i>Shuttleworthii</i> , Albers	XV.	142	<i>vertigo</i> , Draparnaud	XX.	186
<i>Sieversi</i> , Mousson	IV.	29	<i>Villei</i> , Charpentier	XI.	99
<i>signata</i> , Mousson	X.	89	<i>villoso-ula</i> , Kokiel	XI.	102
<i>similis</i> , Bruguière	V.	43	<i>vincula</i> , Lowe	XV.	135
<i>simplex</i> , Gould	IX.	76	<i>Walbergi</i> , Pfeiffer	XX.	187
<i>sinnata</i> , Mousson	VIII.	74	<i>Weinlandi</i> , Kurr	III.	24
<i>sphinctostoma</i> , Lowe	XV.	136	<i>Zebra</i> , Weinland	II.	12

M O N O G R A P H
OF THE GENUS
V A N I K O R O.

“ Nature, enchanting Nature, in whose form
And lineaments divine I trace a hand
That errs not.”—*Cowper*.



VANIKORO.

PLATE I.

Genus VANIKORO, Quoy et Gaimard.

Testa subglobosa, plerumque alba, cancellata vel decussata, epidermide tenui induita, perforata, umbilicata, umbilico in canalem desinenti; margine aperturae simplici. Operculum corneum unguiculatum, non-spirale.

Shell subglobose, generally white, cancellated or decussated, covered with a thin epidermis, perforated, umbilicus ending in a canal; margin of the aperture simple. Operculum horny, unguiculate, non-spiral.

Synonyma. MERRIA, Gray. WARICA, Recluz.

The greater part of the species now known were described by Recluz in the Proceedings of the Zoological Society for 1843, many of them being from specimens in the late Mr. Cuming's collection. A few species have been subsequently discovered. The home of the genus seems to be the Pacific, particularly southwards.

Species 1. (Fig. a, b, Mus. Brit.)

VANIKORO CANCELLOATA. *Van. testa latâ, patula, crassissimâ, costis concentricis obliquis, sublaminatis, extantibus et liris tenuibus spiralibus cancellatâ; aperturâ latâ, columellâ arcuatâ, canali angustato, elongato; spirâ brevissimâ, depressâ, epidermide crocetâ.*

THE CANCELLED VANIKORO. Shell broad patulate, rather thick, cancellated with oblique, rather laminar outstanding concentric ribs and thin spiral ridges; aperture broad, columella arched, canal narrow, elongated; spire very short, depressed; epidermis saffron.

QUOY ET GAIMARD. Voyage de l'Astrolabe.

NARICA QUOYI, Recluz.

Hab. Vanikoro, S. Pacific.

In this species the oblique ribs are rather laminated in form, and rise to angular ridges in the most prominent parts. The colour of the epidermis is bright saffron on the younger specimens.

Species 2. (Mus. Brit.)

VANIKORO GUERINIANA. *Van. testa brevi, crassâ, latâ, costis distantibus, crassis, perobliquis, et striis spiralibus cancellatâ; aperturâ latâ, declivi; canali obliquè rectiunculo, canali latâ, semilunari.*

GUERIN'S VANIKORO. Shell short, thick, broad, cancellated with distant, thick, very oblique ribs and spiral striae; aperture broad, sloped downwards; canal obliquely nearly straight, canal broad, semi-lunar.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. Isl. of Capul, Philippines.

The ribs are broad, thick, and distant.

Species 3. (Mus. Brit.)

VANIKORO PLICATA. *Van. testa globosâ, tenuissimâ, costis numerosis tenuibus et striis spiralibus sculptâ; apice subacuminato; canali semilunari; columelli rectiunculâ.*

THE PLAITED VANIKORO. Shell globose, rather thin, sculptured with numerous thin ribs and spiral striae; apex rather acuminated; canal semilunar; columella rather straight.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. Isl. Ticao.

Species 4. (Mus. Brit.)

VANIKORO CIDARIS. *Van. testa rotundâ, crassâ, costis latis, subdistantibus et striis spiralibus sculptâ; spirâ depressâ, acuminatâ; aperturâ magnâ, canali moderatè angustatâ, columellâ rectiunculâ.*

THE CIDARIS VANIKORO. Shell rounded, thick, sculptured with broad, rather distant ribs and spiral striae; spire depressed, acuminated; aperture large, canal moderately narrow, columella rather straight.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. Isl. Masbate, Philippines.

VANIKORO.—PLATE I.

Species 5. (Mus. Brit.)

VANIKORO PETITIANA. *Van. testā globosā tenuiāsculā, costis numerosis, concentricis versūs marginem sub- evanidis et liris tenuibus, acutis, spiralibus sculptā; spirā acuminatā, anfractibus rotundis, distinctis, ultimo maximo; canali angusto; aperturā latā.*

PETIT'S VANIKORO. Shell globose, rather thin, sculptured with numerous concentric ribs becoming obsolete towards the margin and thin, sharp spiral ridges; spire acuminated, whorls rounded, distinct, last very large; canal narrow; aperture broad.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. Philippines.

Species 6. (Mus. Brit.)

VANIKORO LIGATA. *Van. testā crassiāsculā, globosā, costis elevatis, obliquis, crassis, concentricis, liris tenuibus ligatis sculptā; spirā depressā, canali angustissimo, columellā arcuatā.*

THE CONNECTED VANIKORO. Shell rather thick, globose, sculptured with raised, oblique, thick, concentric ribs united by thin spiral ridges; spire depressed, canal very narrow; columella arched.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. Seychelles Islands.

Species 7. (Fig. a, b, Mus. Brit.)

VANIKORO CUMINGIANA. *Van. testā depressā, crassā, angulatā, carinis magnis spiralibus et striis foveolatis*

concentricis sculptā; spirā brevi, anfractibus minutis, angulatis; aperturā subrotundā; canali lato.

CUMING'S VANIKORO. Shell depressed, thick, narrow, sculptured with large spiral keels, and pitted concentric striae; spire short, whorls minute, angular; aperture rather rounded; canal broad.

RECLUZ. Proc. Zool. Soc., 1843.

Narica tricarinata, Recluz.

Hab. —?

The *Narica tricarinata* appears to be only a depressed variety.

Species 8. (Fig. a, b, Mus. Brit.)

VANIKORO RUGATA. *Van. testā elevatā, crassā, spirā acuminatā anfractibus, superioribus crassi-costatis, interstiliis profundè foveolatis, ultimo anfractu leviter sculpto; aperturā semilunari; canali lato, columellā rectiusculā.*

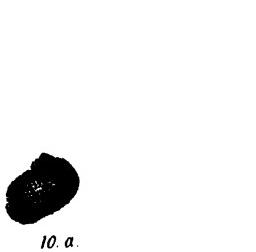
THE WRINKLED VANIKORO. Shell elevated, thick, spire acuminated, upper whorls thick-ribbed, with deeply pitted interstices; last whorl lightly sculptured, aperture semilunar; canal broad, columella rather straight.

A. ADAMS. MS. Cum. Coll.

Hab. —?

The cancellations of the upper whorls are very deeply pitted, but they become almost obsolete towards the back and margin of the last whorl.





V A N I K O R O.

PLATE II.

Species 9. (Mus. Brit.)

VANIKORO GAIMARDI. *Van. testa parva, costis paucis, distantibus spiralibus et liris concentricis profundè et latè cancellatæ; spiræ elevatae, acuminatæ; aperturæ subrotundæ; canali angusto, profundo.*

GAIMARD'S VANIKORO. Shell small, deeply and broadly cancellated with few distant spiral ribs and concentric ridges; spire elevated, acuminated; aperture rather rounded; canal narrow, deep.

ADAMS. MS. Cum. Coll.

Vanikoro Quoyi, Adams, non Recluz.

Hab. —?

Species 10. (Fig. a, b, Mus. Brit.)

VANIKORO CUVIERIANA. *Van. testa subpatulæ, depresso, tenui, tenuiter spiraliter et concentricè liratæ; spiræ depresso, acuminatæ, anfractu ultimo superne subdepresso; aperturæ obliquæ ovatae, canali latissimo, columelli tenui, obliquæ subarcuatae.*

CUVIER'S VANIKORO. Shell rather patulate, depressed, thin, finely spirally and concentrically ridged; spire depressed, acuminated, last whorl rather depressed above; aperture obliquely ovate, canal very broad, columella thin, a little obliquely arched.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. —?

A more finely sculptured shell than most of the other species.

Species 11. (Mus. Brit.)

VANIKORO SOULEYETIANA. *Van. testa globosa, tenuiter spiraliter et concentricè sculpta; spiræ parvæ, acuminatæ, ultimo anfractu rotundo; aperturæ subrotundæ; columellæ rectæ, canali brevi, angusto.*

SOULEYET'S VANIKORO. Shell globose, finely spirally and concentrically sculptured; spire small,

acuminated, last whorl rounded; aperture rather rounded; columella straight, canal short, narrow.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. —?

Originally described from a specimen in Mr. Cuming's collection—locality unknown.

Species 12. (Fig. a, b, Mus. Brit.)

VANIKORO DESHAYESIANA. *Van. testa globosa, tenui, spiræ acuminatæ; anfractibus superioribus cancellatis, ultimo unfractu tenuiter spiraliter striato, leviter concentricè costatæ; costis striisque versus marginem serè evanidis; aperturæ subrotundæ, columella leviter arcuata; canali latiusculo.*

DESHAYES' VANIKORO. Shell globose, thin, spire acuminated; upper whorls cancellated, last whorl finely spirally striated, lightly concentrically ribbed; ribs and striae almost obsolete towards the margin; aperture rather rounded, columella slightly arched; canal rather broad.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. Isl. Zebu, Philippines.

In some specimens the sculpture almost disappears towards the back of the last whorl.

Species 13. (Fig. a, b, Mus. Brit.)

VANIKORO DISTANS. *Van. testa parva, elatæ, distantissimè concentricè costatæ, spiraliter tenuiter striatæ; spiræ elevatae, acuminatæ; aperturæ semilunari, obliquæ; canali late, semilunari.*

THE DISTANT VANIKORO. Shell small, elevated, very distantly concentrically ribbed, spirally finely striated; spire elevated, acuminated; aperture semilunar, oblique; canal broad, semilunar.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. Isl. Bohol, Philippines.

VANIKORO.—PLATE II.

Species 14. (Mus. Brit.)

VANIKORO CLATHRATA. *Van. testā rotundo-subdepressā; crassā, subæqualiter cancellatā; aperturā obliquā; columellā rectiūsculā, canali latissimo; spirā acuminatā, profunde foveolatā.*

THE LATTICED VANIKORO. Shell roundly sub-depressed, thick, rather equally cancellated; aperture oblique; columella rather straight, canal very broad; spire acuminated, deeply pitted.

RECLUZ. Proc. Zool. Soc., 1843.

Natica striata, D'Orbigny.

Natica margaritacea, Poticz.

Natica sigaretiformis, Potiez.

Hab. —?

Species 15. (Mus. Brit.)

VANIKORO ROSEA. *Van. testā parvā, patulā, roseā, striis spiralibus et costis concentricis obliquis cancellatā; aperturā semilunari, columellā rectiūsculā; canali latissimo.*

THE PINK VANIKORO. Shell small, patulous, pink, cancellated with spiral striae and concentric oblique ribs; aperture semilunar, columella rather straight; canal very broad.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. Moluccas.

The only species showing any genuine colour in the shell itself.

Species 16. (Mus. Brit.)

VANIKORO GRANULOSA. *Van. testā globosā, costis spiraliibus moniliformibus sculpta; spirā elevata; aperturā semilunari; columellā tenui; canali latissimo, complanato.*

THE GRANULATED VANIKORO. Shell globose, sculptured with beaded spiral ribs; spire elevated; aperture semilunar; columella thin; canal very broad, flat.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. New Holland.

The spiral sculpture decidedly predominates in this species in the form of beaded ribs.





17



18 a



18 b



19



a



20

b

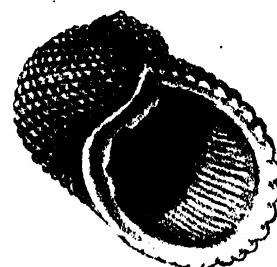


a



21

b



Neritopsis.



23.



a.



24.



b.

VANIKORO AND NERITOPSIS.

PLATE III.

Species 17. (Mus. Brit.)

VANIKORO IMBRICATA. *Van. testā parvā, tenui, obliquā, tenuiter spiraliter et concentricè striatā; spirā elevatā, acuminatā; aperturā angustè ovatā, obliquè productā, canali maximo, semirotuolo.*

THE IMBRICATED VANIKORO. Shell small, thin, oblique, finely spirally and concentrically striated; spire raised, acuminate; aperture narrowly ovate, obliquely produced, canal very large, half-rounded.

PEASE. MS.

Hab. Islands in the Pacific.

Species 18. (Fig. a, b, Mus. Brit.)

VANIKORO RECLUZIANA. *Van. testā elatā, acuminatā, spirā cancellatā, ultimo anfractu ferè levigato; aperturā semicirculari, columellā rectiūsculā; canali elongato, latiūculo.*

RECLUZ'S VANIKORO. Shell elevated, acuminate, spire cancellated, last whorl almost smooth; aperture semicircular, columella nearly straight; canal elongated, rather broad.

ADAMS AND ANGUS. Proc. Zool. Soc., 1867, p. 212.

Hab. New South Wales.

The early whorls are strongly cancellated, but the body whorl becomes nearly smooth.

Species 19. (Mus. Brit.)

VANIKORO HELICOIDEA. *Van. testā subrotundā, eleganter costatā, interstitiis spiraliter depresso-striatā; spirā depressa; aperturā magna, ovatā; columellā tenui, rectiūsculā; canali brevi, semilunari.*

THE SNAIL-SHAPED VANIKORO. Shell rather rounded, elegantly ribbed, interstices spirally depressed-striated; spire depressed; aperture large, ovate;

columella thin, rather straight; canal short, semi-lunar.

LE GUILLON. Recluz, Proc. Zool. Soc., 1843.

Hab. ?

Species 20. (Fig. a, b, Mus. Brit.)

VANIKORO SOLIDA. *Van. testā solidā, globosā, spiri prominenti, anfractibus superioribus cancellatis, rotundis, ultimo anfractu tenuiter spiraliter et concentricè striato; aperturā magnā, columellā tortuā; canali angusto.*

THE SOLID VANIKORO. Shell solid, globose, spire prominent, upper whorls cancellated, rounded, last whorl finely spirally and concentrically striated; aperture large, columella tortuous, canal narrow.

SOWERBY. *

Hab.

Species 21. (Fig. a, b, Mus. Brit.)

VANIKORO ACUTA. *Van. testā altiūsculā, tenui, semipellucidā, tenuiter decussatā; spirā acuminatā, anfractibus prominulis; aperturā subovatā, columellā rectā, canali lato, planulato.*

THE ACUTE VANIKORO. Shell rather elevated, thin, semipellucid, finely decussated; spire acuminate, whorls rather prominent; aperture subovate, columella straight, canal broad, flattened.

RECLUZ. Proc. Zool. Soc., 1843.

Hab. — ?

More finely decussated than most of the species, with sharp spire and thin substance.

Species 22. (Mus. Brit.)

VANIKORO SEMPLICATA. *Van. testā globosā, tenuiūsculā, tenuiter decussatā; ultimo anfractu supra suturam aperturā elevatā; anfractibus apicalibus minutis;*

VANIKORO.—PLATE III.

apertura semirotunda; columella tenui, rectiuscula;
canali elongato, angusto.

THE HALF-PLAITED VANIKORO. Shell globose, rather thin, finely decussated; last whorl raised above the suture of the aperture; apical whorls minute; aperture half-round; columella thin, rather straight; canal long, narrow.

PLEASE —? MS. in Cuming's Collection.

Hab. South Seas

Species 23. (Mus. Brit.)

VANIKORO ELATA. *Van. testa altâ, tenui, tenuissimè decussatâ; spirâ elevatâ, acuminatâ, anfractibus prominentibus; apertura breviusculâ, subpyriformi; columella brevi, leviter arcuatâ, canali brevi, angustissimo.*

THE ELEVATED VANIKORO. Shell elevated, thin, very finely decussated; spire elevated, acuminate, whorls prominent; aperture rather short, rather pyriform; columella short, slightly arched, canal short, very narrow.

SOWERBY.

Hab. China Seas.

Much more elevated than *Vanikoro acuta*, and with a narrow canal.

Species 24. (Fig. a, b, Mus. Brit.)

VANIKORO SEMISOLUTA. *Van. testa altâ, angustâ, spiraliter costis moniliformibus, et concentricè striis tenuibus sculptâ; spirâ elevatâ, acuminatâ; ultimo anfractu suprà suturam perelevato; apertura declivi, angustè auriformi, ad suturam vix convexâ, canali elongato, latiusculo.*

THE HALF-UNCOILED VANIKORO. Shell elevated, narrow, sculptured spirally with beaded ribs, and concentrically with thin striae; spire elevated, acuminate; last whorl raised high above the suture; aperture sloped downwards, narrowly auriform, scarcely connected at the suture, canal elongated, rather broad.

SOWERBY.

Hab. East Indies.

Owing to the fall of the aperture and the comparative distinctness of the canal, the outer and inner lips seem scarcely to touch the body-whorl.

NERITOPSIS.

Genus NERITOPSIS, Grateloupe.

Testa subglobosa, spiraliter granoso-costata; spira brevi, apertura magna; labio interno crasso, planulato, medio quadratim emarginato; labio externo intus incrassato. Operculum crassum, testaceum, non spirale.

Shell subglobose, spirally granulately ribbed; spire short, aperture large; inner lip thick, flattened, with a square notch in the middle; outer lip thickened within. Operculum thick, shelly, not spiral.

Syn. RADULA, Gray, not Klein.

As yet the *Neritopsis radula* from the Pacific is the only recent species known, although there are many fossil ones. The operculum formerly unknown, and supposed to be thin and horny, has been recently

figured in the Zoological Proceedings and described by Mr. Henry Adams. It is thick and shelly, with a square projection to fit the notch in the columella of the shell.

Species. (Mus. Sowerby.)

NERITOPSIS RADULA. *Ner. testa obliquè ovata, crassa; costis crassis moniliformibus spiralibus sculpta; interstitiis angustis, foveolatis; apertura obliqua, margine externo laqueato.*

THE ROOT NERITOPSIS. Shell obliquely ovate, thick; sculptured with thick beaded, spiral ribs; interstices narrow, pitted; aperture oblique, outer margin fluted.

LINNAEUS (*Nerita*). Syst. Nat.

Hab. Ceylon.

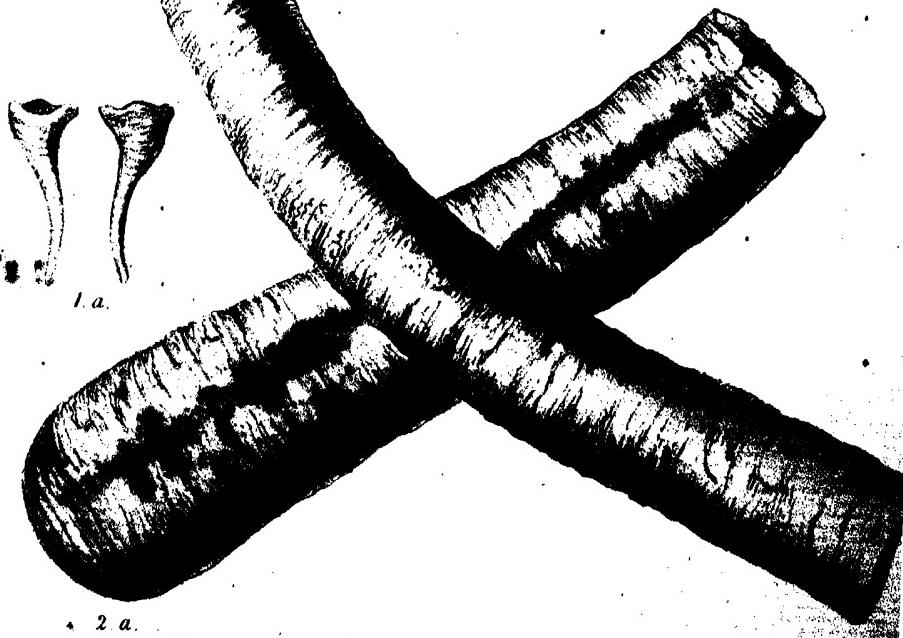
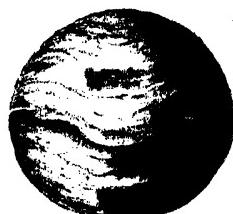
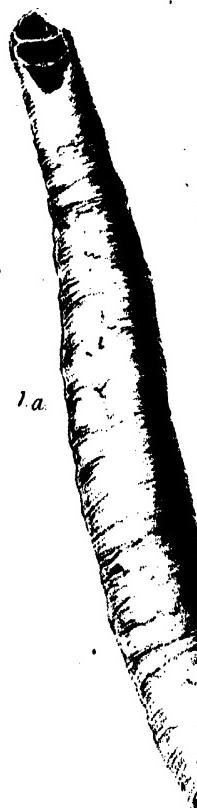
MONOGRAPH

OF THE GENUS

K U P H U S.

' All worlds, all nature, mood and measure keep
For praise and ceaseless gratulation poured
Into the ear of God—their Lord."—*Wordsworth*.





K U P H U S.

Genus KUPHUS, *Guttcard* (*Cyphus*).

Molluscum arenicolum. *Tuba magna alba, rugosa, subannulata, posticè attenuata, intùs in tubas duabus divisa, laminis septiformibus transversis concavata. Valve ignotæ. Palmuli compressores testacei, deltoides.*

Mollusc, sand-burrowing. Tube large, white, rough, slightly ringed, posteriorly attenuated, divided interiorly into two tubes, chambered transversely with septiform laminae. Valves unknown, compressor palmlets shelly, deltoid.

Syn. *Furcella*, *Oken*. *Septaria*, *Lamarck*.

The gigantic tube of this Mollusc in its anterior duplicate opening, its inner transverse septa, and its white, roughened, and irregularly annulated surface, is so exactly like a magnified representation of the tube of a *Teredo* as to leave little doubt as to the nature of the animal and its affinity with the genus *Teredo*. At the same time it can hardly be included in that genus, the valves having never been seen, and it being certain that the animal does not bore like the *Teredines*.

Species 1. (Mus. Brit.)

KUPHUS GIGANTEA. *Kup. testa maximâ, tuba elongatâ, rugosa, posticè attenuatâ, divisa, anticè late aperta; valvulis et palmulis compressoribus ignotis.*

THE GIGANTIC KUPHUS. Shell very large; tube elongated, rugose, posteriorly attenuated, divided, anteriorly broadly open; valves and compressor palmlets unknown.

LINNÆUS (*Serpula*). *Systema Naturæ*.

Septaria arenaria, *Lamarck*.

Although not yet discovered, there can be little doubt but that valves of some kind exist. It is only barely possible that they may become absorbed. The tube, of which fig. *b* represents the end portion, is about three and a half feet long.

Species 2. (Fig. *a*, *b*, *c*, Mus. Brit.)

KUPHUS CLUSA. *Kup. testa magnâ; tuba tenuissenti anticè divisi, attenuatâ, concameratâ; posticè margine rotundatim inflexo superlaminato clausâ; valvulis ignotis; palmulis compressoribus testaceis, aequalibus, anticè styliformibus, posticè deltoides.*

THE CLOSED KUPHUS. Shell large; tube rather thin, anteriorly divided, attenuated, chambered, posteriorly closed by the roundly-inflected, super-laminated margin; valves unknown; compressor palmlets shelly, equal, anteriorly styliform, posteriorly deltoid.

SOWERBY.

Hab. — ?

The end of the tube, which in the British Museum specimen is about fifteen inches long, is closed by the margin being folded inwards so as to meet and overlap across a rounded oval disc. If there were valves they would be enclosed within this termination. I do not know whether they have been sought in the specimen. The specimen in the British Museum is labelled as identical with the well-known *C. arenaria*.

May, 1875.

MONOGRAPH
OF THE GENUS
T E R E D O.

“In nature’s infinite book of secrecy,
A little I can read.”—*Shakspere.*



TEREDO.

PLATE I.

Genus TEREDO. Linnæus.

Molluscum vermiforme, perforans, tubam testaceam plerumque formans, siphonibus stylorum corneorum vel palmularum testacearum pari munitum. Testa globosa, equivalvis, anticè angulariter, posticè arcuatim hians; cardine calloso, utrâque valva processu subumbonalí munita. Tubá ad terminum siphonalem laminis septiformibus frequenter dividit.

Mollusc worm-shaped, perforating, generally forming a shelly tube; siphons provided with a pair of horny stylets or shelly pallets. Tube divided at the siphonal end by septiform laminae. Shell globose, equivalve, gaping angularly in front and in a curve behind; hinge callous, provided with a subumbonal process in each valve.

The habits of the Teredos are only too well known wherever they are found. The mischief they do in boring ship's timbers, and destroying breakwaters and piles, causes them to be reckoned among the enemies of industrial mankind. They generally bore in the direction of the grain of the wood, sometimes a little crookedly, but seldom intruding into each other's bores. The shelly tube forms the lining to the hole, and the valves are enclosed at the wider extremity. The pallets or styles are attached near the ends of the siphons, and seem to be used for the purpose of compressing and relaxing them, so as to assist the circulation of water through the lengthened tubes. The pallets in some species are shelly and spade-shaped; in others horny and styliform. These divisions are separated numerically by some authors as TEREDO and XYLOPHAGA.

Species 1. (Fig. a, b, only Mus. Brit.)

TEREDO NAVALIS. *Ter. testa obliqua, solidiscula; arcis anticus tenuissime striatus; sulco lirato, areo posticò levigata, tuba minimè testaceis, oblongis, termino brevi.*

THE SHIP TEREDO. Shell oblique, rather solid, anterior areas very finely striated; middle sulcus ridged, posterior area smooth, auricle large, round; tube rather thin, not chambered; pallets shelly, oblong, end arched, stem short.

LINNAEUS. *Systema Naturæ.*

Teredo marinus. Sellius.

Teredo fatalis. Quatrefages?

Hab. British coasts. Piles of Yarmouth Pier. Ramsgate.

Species 2. (Fig. 2, a, b, c; for tube, see Fig. 1, c, d, Mus. Brit.)

TEREDO NORVEGICA. *Ter. testa altiuscula, solidi, validè arcuata; sulco mediani profundo; auriculis angustis, semirotundis; palmulis testaceis, oblongis, termino convexo, lateribus declivibus, stipula breviinscula; tuba robusta, concamerata.*

THE NORWEGIAN TEREDO. Shell rather high, solid, much arched; medial groove deep; auricle narrow, half-round; pallets shelly, oblong, with convex end, sloped sides, and rather short stem; tube robust, chambered.

SPENGLER. Forbes and Hanley, B. Mol. p. 66.

Teredo nigra. Blainville.

Teredo Brugueri. Delle Chiaje.

Teredo fatalis et T. Deshailii. Quatrefages.

Teredo navium. Sellius.

Hab. British and Northern coasts.

The breadth of the valves, as compared with the height, is less in this species than in the preceding, and the posterior auricle is much narrower.

Species 3. (Fig. a, b, Mus. Brit.)

TEREDO BIPENNATA. *Ter. testa alta, tenuiter striata, umbo callosus; auricula postica elevata, ad juncturam angustata, versus marginem lateralem expansa, paulò supra umbo elevata; stylis cornitis, magnilibus, articulatis; uno brevi, stipula elongata, altero c. stipula breviuscula.*

THE BIPENNA. Shell high, finely striated, umbo raised, anterior auricle raised, narrow

at the juncture, expanded towards the lateral margin, raised a little above the umbo; style horny, unequal, jointed; one short, with long stem; the other long, with rather short stem.

TURTON. British Bivalves.

Hab. Ireland, Scarborough, &c.

Species 4. (Fig. a, b, Mus. Hanley.)

TEREDO NEGOTARA. *Ter. testâ latâ, rotundatâ, antîcâ breviuscûlâ, margine dorsali reflexo, recurvâ; concavo; auriculâ posticâ latâ, elevatim expansâ; supra umbones recurvâ; palmulis testaceis, b*

vibus, subquadratâ, stipulâ brevi, crassiusculâ; tubâ articulatâ.

THE EXPANDED TEREDO. Shell broad, rounded, anterior area rather short, dorsal margin reflected, recurved, concave; posterior auricle broad, raised, expanded, recurved above the umbones; pallets shelly, short, rather square, stem short, rather thick; tube jointed.

HANLEY. Forbes and Hanley, Brit. Moll.

Teredo dilatata. Stimpson.

Teredo nana? Turton.

Teredo oceanii? Silius.

Hab. Herne Bay, Devonshire, Swansea.

TEREDO.

PLATE I.

Genus TEREDO. Linnæus.

Molluscum vermiciforme, perforans, tubam testaceam plerumque formans, siphonibus stylorum corneorum vel palmularum testacearum pari munitum. Testa globosa, equivalvis, anticè angulariter, posticè arcuatim hians; cardine calloso, utrèque valvæ processu subumbonalí munita. Tubâ ad terminum siphonalem laminis septiformibus frequenter divisa.

Mollusc worm-shaped, perforating, generally forming a shelly tube; siphons provided with a pair of horny stylets or shelly pallets. Tube divided at the siphonal end by septiform lumina. Shell globose, equivalve, gaping angularly in front and in a curve behind; hinge callous, provided with a subumbonal process in each valve.

The habits of the Teredos are only too well known wherever they are found. The mischief they do in boring ship's timbers, and destroying breakwaters and piles, causes them to be reckoned among the enemies of industrial mankind. They generally bore in the direction of the grain of the wood, sometimes a little crookedly, but seldom intruding into each other's bores. The shelly tube forms the lining to the hole, and the valves are enclosed at the wider extremity. The pallets or styles are attached near the ends of the siphons, and seem to be used for the purpose of compressing and relaxing them, so as to assist the circulation of the water through the lengthened tubes. The pallets in some species are shelly and spade-shape; in others, horny and styliform. These divisions are separated generically by some authors as TEREDO and XYLOPHAGA.

Species 1. (Fig. a, b, only Mus. Brit.)

TEREDO NAVALIS. *Ter. testa obliqua, solidiuscula; areis anticis tenuissime striatis; sulco mediano lirato, areæ posticæ levigatae, auricula magna, rotunda; tuba tenuiuscula, minimè camerata, palmulis testaceis, oblongis, termino concavo-arcuata; stipula brevi.*

THE SHIP TEREDO. Shell oblique, rather solid, anterior areas very finely striated; middle sulcus ridged, posterior area smooth, auricle large, round; tube rather thin, not chambered; pallets shelly, oblong, end arched, stem short.

LINNAEUS. *Systema Naturæ.*

Teredo marinus. Sellius.

Teredo fatalis. Quatrefages?

Hab. British coasts. Piles of Yarmouth Pier. Ramsgate.

Species 2. (Fig. 2, a, b, c; for tube, see Fig. 1, c, d, Mus. Brit.)

TEREDO NORVEGICA. *Ter. testa altiuscula, solidi, valde arcuata; sulco mediano profundo; auricula angusta, semirotundata; palmulis testaceis, oblongis, termino convexo, lateribus declivibus, stipula breviæscula; tuba robusta, concamerata.*

THE NORWEGIAN TEREDO. Shell rather high, solid, much arched; medial groove deep; auricle narrow, half-round; pallets shelly, oblong, with convex end, sloped sides, and rather short stem; tube robust, chambered.

SPENGLER. Forbes and Hanley, B. Mol. p. 66.

Teredo nigra. Blainville.

Teredo Bruguieri. Delle Chiave.

Teredo fatalis et T. Deshayi. Quatrefages.

Teredo navium. Sellius.

Hab. British and Northern coasts.

The breadth of the valves, as compared with the height, is less in this species than in the preceding, and the posterior auricle is much narrower.

Species 3. (Fig. a, b, Mus. Brit.)

TEREDO BIPENNATA. *Ter. testa alta, tenuiter striata, umbonibus callosis; auricula posticæ elevata, ad juncturam angustata, versus marginem lateralem expansa, paulò supra umbonem elevata; stylis cornicis, inaequalibus, articulatis; uno brevi, stipula elongata, altero elongato, stipula breviæscula.*

THE BIPENNATE TEREDO. Shell high, finely striated, umbones callous, posterior auricle raised, narrow

TEREDO.—PLATE I

at the juncture, expanded towards the lateral margin, raised a little above the umbo; styles horny, unequal, jointed; one short, with long stem; the other long, with rather short stem.

TURTON. British Bivalves.

Hab. Ireland, Scarborough, &c.

Species 4. (Fig. a, b; Mus. Hanley.)

TEREDO NEGOTARA. *Ter. testā latā, rotundatā, arcu anticā breviūsculā, margine dorsali reflexo, recurvo concavo; auriculā posticā latā, elevatim expansā supra umbones recurvā; palmulis testaceis, bre*

vibus, subquadratis, stipulā brevi, crassīsculā; tubā articulatā.

THE EXPANDED TEREDO. Shell broad, rounded, anterior area rather short, dorsal margin reflected, recurved, concave; posterior auricle broad, raised, expanded, recurved above the umboes; pallets shelly, short, rather square, stem short, rather thick; tube jointed.

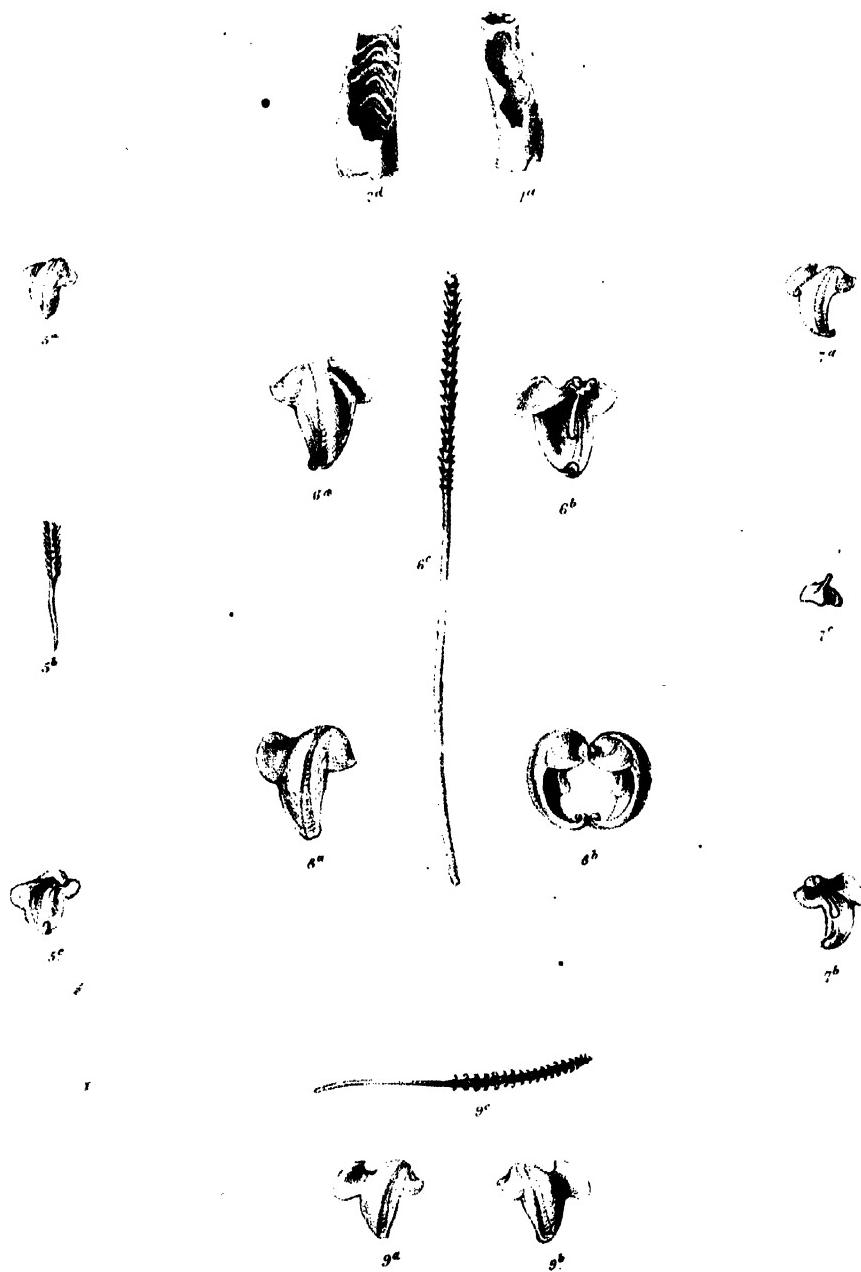
HANLEY. Forbes and Hanley, Brit. Moll.

Teredo dilatata. Stimpson.

Teredo nana? Turton.

Teredo oceanii? Sellius.

Hab. Herne Bay, Devonshire, Swansea.



TEREDO.

PLATE II.

Fig. 1. *d.* Small end of the tube of *Teredo navalis*, showing that it is not chambered. To replace the figure in Plate I.

Fig. 2. *d.* Chambered end of TEREDO NORVEGICA.

Species 5. (Fig. *a, b, c*, Mus. Brit.)

TEREDO STUTCHBURYI. *Ter. testá brevi, rotundá; areá anticá parcá, obtusá, auriculá posticá parcá, rotundá; processu subumbonalí expanso, validè curvo; stylis cornéis, minutè articulatis, lateribus tenuiter spinosis; stipulá curvá, tenui.*

STUTCHBURY'S TEREDO. Shell short, rounded; anterior area small, obtuse; posterior auricle small, rounded; subumbonal process expanded, strongly curved; stylets horny, minutely articulated, finely spined at the sides; stem curved, thin.

LEACH. MS. Mus. Brit.

Hab. Sumatra.

Species 6. (Fig. *a, b, c*, Mus. Brit.)

TEREDO CARINATA. *Ter. testá altiñculá, valdè arcuatá; auriculá anticá expansá, elevatá, intus validissimè carinatá; stylis cornéis, elongatis, tenuibus, stipulá elongatissimá.*

THE KEELED TEREDO. Shell rather high, much arched; anterior auricle expanded, raised, very strongly keeled, stylets horny, long, narrow, stem very long.

GRAY. MS. in Brit. Mus.

Hab. Drift-wood in British Channel.

The stylets of *Teredo bipennata* are unequal, one being short, wheat-ear-like, with very long stem, and the other a much longer body with shorter stem. The stylets of *Teredo carinata* seem to differ from both. The valves in the latter are perhaps broader, but the difference is not very certain or obvious.

Species 7. (Fig. *a, b, c*, Mus. Brit.)

TEREDO MALLEOLUS. *Ter. testá parvá, altá, obliquá, angustatá, validissimè arcuatá, areá posticá brevi, angustá, versus umbonem recurvá, elevatá; processu umbonalí obliquá curvá, ad terminum clavatá; palmulis brevissimis, testaceis, latis, stipulá brevi, incurvá.*

THE LITTLE HAMMER TEREDO. Shell small, high, oblique, narrow, very strongly arched; posterior

area short, narrow, recurved towards the umbo, raised; umbonal process obliquely curved, club-shaped at the end; pallets very short, shelly, broad, with short stem, bent forwards.

TURTON. Forbes and Hanley. Brit. Moll.
Hab. Torquay.

Species 8. (Fig. *a, b*, Mus. Brit.)

TEREDO MEGATHORAX. *Ter. testá magná, solidá, rotundi, anticé latissimè hianté, validè arcuatá, umbonibus rotundis, auriculá posticá brevi, rotundi, margine dorsali paulò elevato; areá anticá brevi, areis medianis elongatis, callo terminali magno; processu subumbonalí lato.*

THE BIG-CHESTED TEREDO. Shell large, solid, rounded, anteriorly very widely gaping, strongly arched, umboes rounded, posterior auricle short, rounded, dorsal margin a little raised; anterior area short, median areas elongated, with large terminal callus; subumbonal process broad.

GOULD — ? MS. Mus. Brit.

Hab. N. America.

Species 9. (Fig. *a, b, c*, Mus. Brit.)

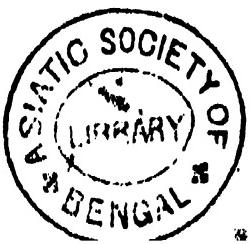
TEREDO CAMPANULATA. *Ter. testá albá, latiñculá, areá postico-centrali latá, sulco mediani lato, tirato; auriculá posticá ad juncturam angustatá, versus marginem lateralem latè expansá, superè concavo-arcuatim elevatá, margine laterali declivi; stylis cornéis, elongatis, dimidiatis articulis campanuliformibus utriusque recurvo-spinosis ornatis.*

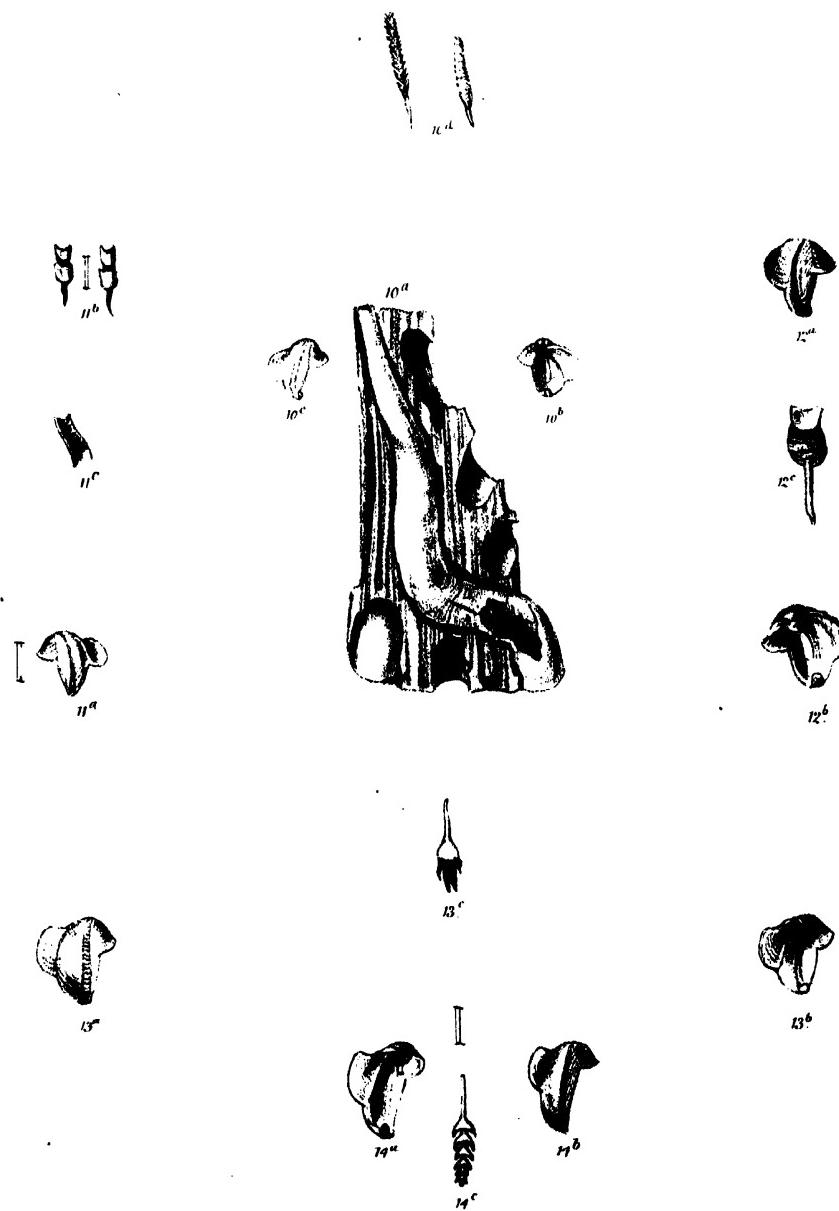
THE CAMPANULATED TEREDO. Shell white, rather broad, posterior-central area broad, middle sulus broad, ridged; posterior auricle narrowed at the juncure, broadly expanded towards the lateral margin, raised in a concave curve above, lateral margin sloped downwards; stylets horny, elongated, ornamented half-way with bell-shaped joints, having recurved spines on each side.

DESHAYES. MS. Mus. Brit.

Hab. — ?

The valves resemble those of *Teredo bipennata*, but are much shorter and broader in the continuation of the central areas below the auricle. The greater difference is in the ornamentation of the pallets.





TEREDO.

PLATE III.

Species 10. (Fig. a, b, c, d, Mus. Brit.)

TEREDO SAULII. *Ter. testâ subrotundâ, parvâ, arcâ auriculâ cuneatâ; auriculâ posticâ semirotundâ, elongatâ, margine dorsali declivi, ad juncturam inferiorem moderate angulatâ, areis centralibus infra auriculam breviâsculis, processu subumbonalî ad terminum expanso; tubâ solidâsculâ, nonnumquam elanât; stylis corneis, angulatum pinnatis, stipulâ brevi.*

SAIL'S TEREDO. Shell rather round, small, anterior area cuneated; posterior auricle half-round, elongated, dorsal margin sloped, moderately angular at the lower juncture; central areas rather short below the auricle; subumbonal process expanded at the end; tube rather solid, sometimes closed; stylets horny, angularly pinnated; stem short.

WRIGHT. MS. Mus. Brit.

Hab. Callas Bay.

Species 11. (Fig. a, b, c, Mus. Jeffreys.)

TEREDO PEDICILLATA. *Ter. testâ parvâ, altiâsculâ; arcâ auriculâ breviâsculâ, auriculâ posticâ prominenti, rotundâ; palmulis testaceis, medio quasi-articulatis, termino concavo-arcuato; stipulâ cornuâ, longâ; tubâ tenui, septis terminalibus paucis.*

THE PEDICLE TEREDO. Shell small, rather high; anterior area rather short, posterior auricle prominent, rounded; pallets shelly, quasi-articulated in the middle, concavely arched; stem horny, long; tube thin, with few terminal septa.

QUATREAGES. Ann. Nat. Sci. Ser. 3. t. II. p. 26.

Hab. Coasts of Great Britain.

The valves resemble those of *Teredo palmulata*, but the kind of horny joint by which the pallets seem to be divided into two portions shows the distinctness of the species.

Species 12. (Fig. a, b, c, Mus. Brit.)

TEREDO BATAVUS. *Ter. testâ brevi, rotundâ, crassâ; auriculâ posticâ angustâ, margine dorsali declivi; arcâ auriculâ breci, obtusâ; umbonibus callosis, incurvis; processu subumbonalî curvo, expanso; tuberculo terminali magno; palmulis testaceis, spatulatis, latâs, ad latera concavâs, ad terminum concavâs; stipulâ elongatâ.*

THE BATAVIAN TEREDO. Shell short, rounded, thick; posterior auricle narrow, dorsal margin sloped; anterior area short, obtuse; umbones callous, curved inwards; subumbonal process curved, expanded; terminal tubercle large; pallets shelly, spatulate, broad, convex at the sides, concave at the end; stipula elongated.

SPENGLER — ? Fid. Mus. Brit.

Hab. Batavia.

This species has been assigned to *Teredo naralis* by some authors, but the valves, as well as the pallets, are very different in form.

Species 13. (Fig. a, b, c, Mus. Deshayes.)

TEREDO AFFINIS. *Ter. testâ parvâ, globosâ, liratostriatâ; arcâ auriculâ brevi, angustâ; arcâ postico-mediani latâ; auriculâ posticâ latâ, elongatâ, arcuatim plicatâ; hiatu postico parvo; processu subumbonalî tenuissimo, brevi; palmulis minimis, angustis, compressis; supernâ corneis, quadripartitis; stipulâ elongatâ.*

THE ALLIED TEREDO. Shell small, globose, ridge-striated; anterior area short, narrow; postero-medial area broad; posterior auricle broad, long, plaited in curves; posterior hiatus small; subumbonal process very thin and rather short; pallets very small, narrow, compressed; horny and quadripartite above; stem elongated.

DESHAYES. Conch. Isl. Bourbon. Pl. XXVIII. Fig. 8-12.

Hab. Ile de la Réunion (Bourbon).

TEREDO.—PLATE III.

Species 14. (Fig. *a*, *b*, *c*, Mus. Deshayes.)

TEREDO BREVIS. *Ter. testâ parvâ, altâ, tenuissimâ, utroque latere valde aperto, areis distinctis, anticus granosè-striatis; auriculâ posticâ latâ, eleganter tenui et plicatâ; processu subumbonali brevissimo; palmulis elongatis, articulatis, articulis septem vel octo, infundibuliformibus, gradatim decessentibus, spinâ coriacea utroque latere armatis.*

THE SHORT TEREDO. Shell small, high, rather thin,

widely gaping on both sides; areas distinct, anterior granularly striated; posterior auricle broad, elegantly thin and plaited; subumbonal process very short. Pallets elongated, jointed, joints seven or eight, funnel-shaped, gradually decreasing, armed on each side with a coriaceous spine.

DESHAYES. Conch. Isl. Bourbon, Pl. 28, Fig. 4-7.

Hab. Ile de la Réunion (Bourbon).





TEREDO.

PLATE IV.

Species 15. (Fig. a, b, c, Mus. Brit.)

TEREDO PALMULATA. *Ter. testâ parvâ, rotundâ; auriculâ posticâ et areâ anticâ productis, rotundis, areis centralibus latis, breviunculis; processu subumbonali curvo, expanso. Stylis cornicis, brevibus, spiciformibus, stipulâ longitudine aequali.*

THE PALMULATED TEREDO. Shell small, rounded, posterior auricle and anterior area produced, rounded; central areas broad, rather short; subumbonal process curved, expanded. Styles horny, short wheat-ear-shaped, stem of equal length.

LAMARCK. Auiin, sans. Vert.

Teredo minima. Blainville.

Teredo bipalmata. Delle Chiaje.

Teredo Philiptii. Fisher.

Hab. Ireland, England, &c. In floating wood.

Species 16. (Fig. a, b, c, Mus. Brit.)

TEREDO SENGALENSIS. *Ter. testâ parvâ; tubâ rugosâ, versus terminum siphonalem attenuatâ; palmulis breviter spatulatis, extis bicarinatis; stipulâ brevissimâ.*

THE SENEGAL TEREDO. Shell small; tube rough, attenuated towards the siphonal end; pallets shortly spatulate, bicarinated outside, with very short stem.

BLAINVILLE.

Hab. Senegal coasts.

Tubes in wood, and pallets which seem quite distinct in their characters from any other species, are in the British Museum, without any specimens of the valves. The species is referred to *Teredo Norvegica* by Jeffreys.

Species 17. (Fig. a, b, c, Mus. Brit. and Sowb.)

TEREDO NUCIVORA. *Ter. testâ altâ, angustissimâ, tenui, utrinque latissimè aperâtâ; tubâ contortâ, crassâ, bulbiformi.*

THE NUT-EATING TEREDO. Shell high, very narrow, thin, very widely gaping on both sides; tube contorted, thick, bulb-shaped.

SPENGLER. Desh. Traité élém. Pl. 2, Fig. 9, 10.

Genus *Uperotis*. Guettard.

Guettiera nucivora. Gray.

Pistularia gregata. Lamarck.

Teredo gregata. Sowerby.

Hab. Isl. of France.

This species pierces its way through the shells of floating cocoa-nuts, and forms its contorted bottle-shaped tubes in the interior. Several tubes are often found twisted together, and a specimen in the British Museum shows a mass of them coiled round each other in the very heart of a nut. The writer has not met with specimens of the pallets, but the valves are narrow and much curved.

Species 18. (Fig. a, b, c, Mus. Brit.)

TEREDO DENTICULATA. *Ter. testâ brevi, rotundâ, solidi; areâ anticâ brevissimâ; auriculâ posticâ elongati, expansâ, suprâ angustatâ, versus umbonem incurvâ; areis medianis latis, infrâ auriculam brevibus; umbonibus callosis, denticulo spiniformi munitis; palmulis subovatis, ad latera non-denticulatis, supra dentes declivibus, stipulâ brevissimâ.*

THE DENTICULATED TEREDO. Shell short, round, solid; anterior area very short; posterior auricle elongated, expanded, narrow above, curved inwards towards the umbo; middle areas broad, short below the auricles; umboes callous, provided with a spine-shaped denticle; pallets subovate, with a tooth at the sides, sloped above the teeth, stem very short.

Gray. MS. Brit. Mus.

Hab. Britain?

Species 19. (Fig. a, b, c, Mus. Brit.)

TEREDO DUNLOPI. *Ter. testâ brevi, crassâ, globosâ, striis moniliformibus sculptâ; umbonibus curvis,*

TEREDO.—PLATE IV.

callosis, intus lamellâ accessoriâ instructâ; processu subumbonali valde arcuato, lato; areâ anticae subquadratâ, areâ antico-centrali latissimo; sulco mediano angusto, profundo, areâ postico-centrali angustissimâ; auriculâ posticâ extus vis distinctâ, intus luminâ notatâ; palmulis semicorneis, oblongis, uno latere convexis, altero planis, ad terminum bifurcatis, stipulâ breviusculâ.

DUNLOP'S TEREDO. Shell short, thick, globose, sculptured with beaded striae; umboes curved, callous, fitted inside with an accessory plate; subumbonal process much arched, broad; anterior area subquadrate, anterior-central area very broad; medial sulcus narrow, deep; posterior-central area very narrow; posterior auricle scarcely distinguished on the outside, marked

within by a lamina; pallets half horny, oblong, convex on one side, flat on the other, two-forked at the end, stem rather short.

WRIGHT. Trans. Linn. Soc. 1864.

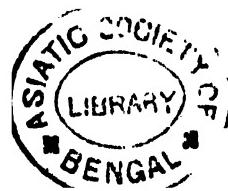
Naucitora Dunlopi. Wright.

Hab. River Como, Bengal.

The river Como flows from and returns to the river Ganges. Just on the bend Mr. Dunlop resided for some time, and the Teredos of this new species were found to have perforated some wood which had been cut down on the spot and left to float. The water of the river itself and of that part of the Ganges whence it flows is perfectly fresh, and the water, being remarkably soft, is used for drinking and all culinary purposes. We have here, therefore, a fresh-water Teredo.

MONOGRAPH
OF THE GENUS
P E D I C U L A R I A.

'God is great and right!
He crowned man's brow with radiant orbs of light
* * * * *
To read His works God thus illumed the head,
But made man's breast no window to be read." - *N. T. Moile*





1.a



1.b



1.c



1.d



2.a



2.b



2.c



3.a



3.b



1.e

P E D I C U L A R I A.

Genus PEDICULARIA, Swainson.

Testa ovata, irregularis, patula, paucispiralis, radiatim costata; spira subcaelata, minuta; apertura maxima; columella planulata, rectiuscula, labio externo frequenter lobato.

Shell ovate, irregular, patulate, few-whorled, radiately ribbed; spire nearly hidden, minute; aperture very large, columella flattened, rather straight, outer lip frequently lobed.

The Messrs. Adams state in their work on Genera that the only known species is the one found parasitically attached to Mediterranean corals. But M. Deshayes in describing *Pedicularia elegantissima*, in his shells of Bourbon, speaks as if there were many other species, but does not refer to or describe them. The only species, besides the two above named, with which I am acquainted, is the *Pedicularia Pacifica*, described by Pease.

It is somewhat uncertain to what family the curious little shells composing this genus belong. On one hand they have been thought to have some affinity with the *Cypræde*, as there are indications of a mantle reflected over the lips, although not reaching the central region of the back. On the other hand, the shell would be most easily likened to a miniature *Concholæpas* with irregularly extended margins.

Species 1. (Figs. a, b, c, d, e, Mus. Sowerby.)

PEDICULARIA SICULA. *Ped. testa crassæ, valle irregulari; albæ, fulvæ, vel roseo suffusæ; radiatim et divergatim costata, costis minutè moniliformibus, labiis plerumque profundè lobatis, columella rectiuscula.*

THE SICILIAN PEDICULARIA. Shell thick, very irregular; white, fulvous, or suffused with pink; radiately and divergently ribbed, ribs very minutely

beaded, lips generally deeply lobed; columella rather straight.

SWAINSON. Conchological Illustrations.

Hab. Found on small corals in the Mediterranean.

Species 2. (Fig. a, b, c, Mus. Sowerby.)

PEDICULARIA PACIFICA. *Ped. testa tenuiuscula, oblonga, irregularis, in medio contracta, radiatim striis elevatis minutissimis ornata, striis concentricis decussatis, apice conspicuo, involuto; rubida, interdum omnino violacea vel cornuta.*

THE PACIFIC PEDICULARIA. Shell rather thin, oblong, irregular, contracted in the middle, ornamented with very fine raised elevated radiating striae; decussated with concentric striae, apex conspicuous, involute; reddish, sometimes violet all over, or horny.

PEASE. Proc. Zool. Soc., 1865, p. 516.

Hab. Pacific Islands.

Species 3. (Fig. a, b, Mus. Maillard.)

PEDICULARIA ELEGANTISSIMA. *Ped. testa ovato-oblonga, valle convexa, purpurea, radiatim costata, costis majoribus moniliformibus, minoribus interstitialibus levibus; apertura angustata, ultraquam extremitate paulo depresso, spiræ partim calatæ.*

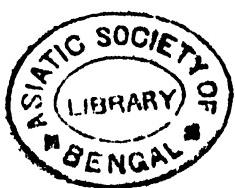
THE ELEGANT PEDICULARIA. Shell ovate-oblong, purple, radiately ribbed; larger ribs beaded, smaller interstitial ones smooth; aperture narrow, a little depressed at each end; spire partly hidden.

DESHAYES. Isle de la Réunion, p. 20, Pl. XXXIII.

Hab. Isl. Bourbon.

MONOGRAPH
OF THE GENUS
MYTELIMA RIA.

"But life did never to one man allow
Time to discover worlds and conquer too ;
Nor can so short a line sufficient be,
To fathom the vast depths of nature's sea." — *Cowley.*





MYTILIMERIA.

PLATE I.

Genus MYTILIMERIA, Conrad.

Testa bivalvis, bimusculosa, tenuis, subaequivalvis, valde inaequilateralis, epidermide induita. Umboes spirales, subdistanter. Caro edentulo; cartilagine partim in foveam instructa, lamina testacea libera obtecta.

Shell bivalve, with two muscles, thin, subequivalve, very inequilateral, covered with an epidermis. Umboes spiral, rather distant. Hinge without teeth, with a cartilage placed partly in a hollow, partly covered by a free testaceous plate.

The type of this genus is the rounded oval shell named *M. Nuttalli* by Conrad. The specimens in the British Museum are odd valves, the shelly plates of which are missing. The subsequently discovered large shell from Vancouver's Island, which has been described as *Lyonsia saxicola* by Dr. Baird, is fairly well adjudged to belong to this genus, and has the ossicle well developed.

Species 1. (Mus. Brit.)

MYTILIMERIA NUTTALLI. *Myt. testa rotundè ovata, tenui, albâ; umboebus terminalibus, distantibus, validè spiralibus; latere postico expanso, terminibus truncatis.*

NUTTALL'S MYTILIMERIA. Shell roundly ovate, thin, white; umboes terminal, distant, very spiral; posterior side expanded, ends truncated.

CONRAD. Amer. Journ. Sci.
Hab. California.

The cartilage is placed in a narrow spiral groove running from the umbo, and where it comes to the hinge line it is enlarged.

Species 2. (Mus. Brit.)

MYTILIMERIA DIAPHANA. *Myt. testa semipellucida, oblongâ, arcuatâ, linguiformi, subcomplanatâ, super aream posticam tenui siccis plurimus radiatâ;*

umbonibus elevatis, ferè terminalibus; latere postico ad terminum latè truncato; margine dorsali arcuatim depresso.

THE DIAPHANOUS MYTILIMERIA. Shell semitransparent, oblong, curved, tongue-shaped, rather flattened, rayed on the posterior area with several brown bands; umboes raised, nearly terminal; posterior side broadly truncated; dorsal margin depressed with a curve.

CARPENTER (*Lyonsia*). Proc. Zool. Soc., 1855.

Hab. California.

Species 3. (Mus. Brit.)

MYTILIMERIA PLICATA. *Myt. testa parvâ, levigata, cuneatâ; antice sinuatim plicatâ, posticè expansâ; umbonibus acutis, ferè terminalibus; latere antico brevissimo, acuminato, margine ventrali profundè sinuato; latere postico alato, infra marginem dorsalem depresso, margine ventrali inflato.*

THE PLAITED MYTILIMERIA. Shell small, smooth, wedge-shaped, anteriorly sinuously plaited, posteriorly expanded; umboes acute, nearly terminal; anterior side very short, acuminated; ventral margin deeply sinuated; posterior side alated, depressed below the dorsal margin, ventral margin inflated.

GRAY. MS. Brit. Mus.

Hab. —— ?

Species 4. (Mus. Brit.)

MYTILIMERIA SAXICOLA. *Myt. testa magnâ, ventricosâ, oblongâ, epidermide valido, corneo-indutâ, ad margines ventralem et terminalium hianti; latere antico brevi, angusto; latere postico elongato, ventricoso, ad terminum truncato; valvâ dextrâ planiusculâ valvâ sinistrâ profundè ventricosâ; margine dorsali depresso, arcuato; lamina cardinali magnâ, crassâ, extus convexa.*

MYTILIMERIA.—PLATE I.

THE ROCK-DWELLING MYTILIMERIA. Shell large, ventricose, oblong, covered with a strong, horny epidermis, gaping at the ventral and terminal margins; anterior side short, narrow; posterior side elongated, ventricose, truncated at the end; right valve rather flat; left valve deeply ventricose; dorsal margin depressed, curved; hinge plate large, thick, convex outside.

BAIRD (*Lyonsia*). Boundary Commission Report.
Hab. Vancouver's Island.

It has been found difficult to fix the generic status of this fine shell, which differs greatly in form and habit from the typical *Lyonsia*.

Species 5. (Mus. Brit.)

MYTILIMERIA NAVICULA. *Myt. testā oblongā, tenui, pallidā, inflatā; umbonibus tumidis, serè terminalibus; latere antico brevissimo, perpendiculariter truncato; margine ventrali anticè sinuato, hianti, posticè inflato; latere postico oblongo, obliquè angulato, ad terminum truncato; margine dorsali depresso, rectiùsculo; valvā dextrā profundā.*

THE BOAT MYTILIMERIA. Shell oblong, thin, pale, inflated; umboes tumid, almost terminal; anterior side very short, perpendicularly truncated; ventral margin anteriorly sinuated, gaping, posteriorly inflated; posterior side oblong, obliquely angular, truncated at the end; dorsal margin depressed, rather straight; left valve deep.

ADAMS AND REEVE (*Lyonsia*). Proc. Zool. Soc., 1836,
p. 70.

Hab. Iquique, Peru.

Species 6. (Mus. Brit.)

MYTILIMERIA PICTA. *Myt. testā subrhomboidea, solidā, lineis fuscis divaricatis pictā, ad marginem ventram latissimè hianti; umbonibus terminalibus; latere antico brevissimo subtruncato; latere postico expanso lato; valvā sinistrā ventricosinā; lamīnd cardinali complanatā.*

THE PAINTED MYTILIMERIA. Shell somewhat rhomboidal, solid, painted with divergent brown lines, very broadly gaping at the ventral margin; umboes terminal; anterior side very short, rather truncated; posterior side expanded, broad; left valve very ventricose; hinge plate flat.

SOWERBY (*Lyonsia*). Proc. Zool. Soc., 1834, p. 88.
Hab. Vancouver's Island.

Species 7. (Mus. Brit.)

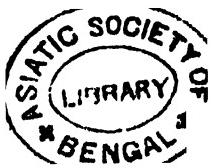
MYTILIMERIA CUNEATA. *Myt. testā tenui, palidā, anticè inflatā, posticè attenuatā, complanatā, latere postico brevi, truncato; umbonibus elevatis acuminatis; margine dorsali rectiùsculo, ventrali medio anticè que inflato.*

THE WEDGE MYTILIMERIA. Shell thin, pale, inflated anteriorly, posteriorly attenuated, flattened; posterior side short, truncated; umboes elevated, acuminate; dorsal margin rather straight, ventral in the middle and anterior side inflated.

GRAY. MS. Brit. Mus.
Hab. — ?

M O N O G R A P H
OF THE GENUS
S A X I C A V A.

"For wonderful are all His Works,
Pleasant to know, and worthiest to be all
Had in remembrance always with delight." --*Milton.*





1a



1b



1c



1d



2



3



4



5.



6



7.

SAXICAVA.

PLATE I.

Genus SAXICAVA, *Fleuriau de Bellevue.*

Testa oblonga, aequivalvis, rugosa, ad marginem ventraliem hians. Cardo aetate juniore minutè bidentatus, aetate majore edentulus. Impressiones musculares distantes; impressione postice latè sinuata.

Shell equivalve, rugose, gaping at the ventral margin. Hinge in a young state bidentate, when full-grown without teeth. Muscular impressions distant; impression of the mantle broadly sinuated posteriorly.

SYN. *Byssomya*, Cuvier. *Hiatella*, Daudin.

The *Saxicavae* are rock-burrowing mollusca. They are found fixed in small hollows, often in the deserted holes of the *Pholas*. To the inner wall of the hole they attach themselves by a byssus, and often in the after growth of their valves become conformed to its shape. The young shells differ in two respects from the older form. They have small cardinal teeth which disappear when the animal is adult, and they have spines on the posterior angles, which also disappear. In this younger state they represent the genus *Hiatella* of Daudin. The arctic seas, the Mediterranean, and the Cape produce most of the few species known.

Species 1. (Mus. Brit.)

SAXICAVA ARCTICA. *Sax. testa oblonga, rugosa, crassa, aetate juniori postice spiniferâ, cardine bidentato, aetate seniori cardine edentulo; latere antico angusto, brevi, margine ventrali sinuoso, umboibus depresso, anticis; latere postico latiori, quadrato, biangulato, latè truncato.*

THE ARCTIC SAXICAVA. Shell oblong, rugose, thick; posteriorly spiniferous when young, with two teeth on the hinge; without teeth on the hinge when adult; anterior side narrow, short; ventral margin sinuous; umboes depressed, anterior; posterior side broader, square, biangular, broadly truncated.

LINNEUS. *Systema Naturæ.*

Hiatella arctica, Lamarek.

Solen minutus, Linnaeus.

Hiatella minuta, Turton.

Donac rhomboides, Deshayes.

Hab. Arctic regions, British and North American coasts.

Species 2. Mus. —? (copied.)

SAXICAVA PETITII. *Sax. testa subcuneiformi, subregulariter rugatâ; latere antico brevi, angusto, margine ventrali profundè sinuato, latè hianti; latere postico expanso, rotundatum obliquè angulato, post angulum latè, obliquè truncato; margine dorsali recto.*

PETIT'S SAXICAVA. Shell rather cuneiform, rather regularly wrinkled; anterior side short, narrow; ventral margin deeply sinuous, broadly gaping; posterior side expanded, roundly, obliquely angular, broadly obliquely truncated behind the angle; dorsal margin straight.

DESHAYES. MS. Mus. Cum. in Brit.

Hab. —?

The wrinkles in this species are regular and sharp.

Species 3. (Mus. Brit.)

SAXICAVA RUGOSA. *Sax. testa tenuiuscula, rhomboidea, levigatâ, postice via angulatâ, leviter rugatâ, margine dorsali subarcuato; latere antico brevissimo.*

THE RUGOSE SAXICAVA. Shell rather thin, rhomboidal, smooth, posteriorly scarcely angular, slightly wrinkled; dorsal margin a little arched; anterior side very short.

LINNEUS (*Mytilus*). *Systema Naturæ.*

Saxicava Gallicana, Lamarck.

Mya Byssifera, Fabricius.

SAXICAVA.—PLATE I.

Hab. British Islands.—France.

More smoothly rounded and less sharply angular than *Saxicava arctica*, with more convex ventral and dorsal margins.

Species 4. (Mus. Brit.)

SAXICAVA SULCATA. *Sax. testa crassă, subcuneatā, concentricè undis magis profundiusculis rugatā; latere antico angusto, producto, subacuminato; umbonibus elevatis, margine ventrali profundè excarato; latere postico late, rotundatim angulato, margine ventrali convexo, margine dorsali depresso, margine terminali truncato.*

THE GROOVED SAXICAVA. Shell thick, rather cuneate, concentrically wrinkled in large waves; anterior side narrow, produced, rather acuminate; umboes elevated, ventral margin deeply excavated; posterior side broad, roundly angular; ventral margin convex; dorsal margin depressed; terminal margin truncated.

DESHAYES —? MS. Mus. Brit.

Hab. Clyde.

The writer is uncertain respecting the authority for this species, which certainly seems distinct from any known forms of *S. arctica*, or *S. rugosa*. It is represented in the British Museum by an odd valve from the Clyde.

Species 5. (Mus. Brit.)

SAXICAVA PHOLADIS. *Sax. testa elongatā, submytiliformi, concentricè validè rugatā; latere antico brevissimo, angustiusculo; latere postico magis expanso, elongato, obliquè angulato, margine dorsali recto; margine terminali latè truncato; margine ventrali convexo.*

THE PHOLAS-LIKE SAXICAVA. Shell elongated, rather mytilus-shaped, concentrically strongly wrinkled, anterior side very short, rather narrow; posterior

side more expanded, elongated, obliquely angular; dorsal margin straight; terminal margin broadly truncated; ventral margin convex.

LAMARCK. Anim. s. Vertèbres.

Hab. Greenland.

It is quite an open question whether this may not be one of the numerous forms of *Saxicava rugosa*.

Species 6. (Mus. Brit.)

SAXICAVA SOLIDA. *Sax. testa crassā, rhomboidē, inaequivalvi; valvā dextrā profundā, ad umbonem multō valvam sinistram altitudine superant; latere antico brevissimo, declivi, umbonibus ferè terminalibus; latere postico biangulato, angulis obliquis, moniliformibus, margine terminali perpendiculariter truncato.*

THE SOLID SAXICAVA. Shell thick, rhomboidal, inaequivalve; right valve deep, much higher than left at the umbo; anterior side very short, sloped, umboes nearly terminal; posterior side biangular, angles oblique, moniliform; terminal margin perpendicularly truncated.

SOWERBY. Proc. Zool. Soc., 1834.

Hab. —?

A very solid shell with two posterior keeled and partly beaded angles.

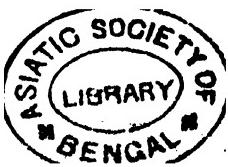
Species 7. (Mus. Brit.)

SAXICAVA FLACCIDA. *Sax. testa parvā, subovatā, tenuiusculā, terminis rotundis, umbonibus magnis, ferè terminalibus; margine ventrali medio subexcavato.*

THE FLACCID SAXICAVA. Shell small, rather oval, rather thin; ends rounded, umboes large, nearly terminal; ventral margin a little excavated in the middle.

GOULD. United States Exploring Expedition ?

Hab. North America.





8a



8b



8c



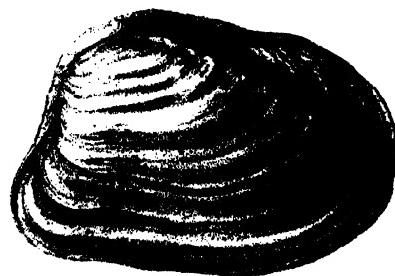
8d



9.



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13.



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SAXICAVA.

PLATE II.

Species 8. (Figs. a, b, c, d, Mus. Brit.)

SAXICAVA AUSTRALIS. *Sax. testā oblongā, valdē rugosā, plusminusvè distortā; umbonibus magnis, perelevatis, ferè terminalibus; latere postico obliquè producto, angulato, ad angulum obsolete spinoso, margine ventrali ad terminum sursum acclivis, margine terminali obliquè truncato, margine dorsali recti, areæ complanatæ.*

THE AUSTRALIAN SAXICAVA. Shell oblong, very rugose, more or less distorted; umboes large, much elevated, nearly terminal; posterior side obliquely produced, angular, obsoletely spinose at the angle, ventral margin sloped upwards at the end, terminal margin obliquely truncated, dorsal margin straight with a flattened area.

LAMARCK. Anim. sans Vert., v. p. 153.

Saxicava distorta, Say.

Murtra crassa, Peron.

Hab. Australia—(var.) United States.

More tumid, especially towards the umboes, than *Saxicava arctica*. The younger specimens have spines on the angle, as in that species, but these are worn off as the shell becomes larger, leaving tubercles in their places. The right valve is frequently deeper and higher at the umboes than the left. The American type (fig. d) corresponds with the Australian and not with the British form.

Species 9. (Mus. Brit.)

SAXICAVA TENUIS. *Sax. testā rhomboidē, elongatā, tenui, subinflatā; latere antico brevissimo, declivi; umbonibus elevatis, acutis, ferè terminalibus; latere postico subattenuato, obliquè aculè angulato; angulo subservato.*

THE THIN SAXICAVA. Shell rhomboidal, elongated, thin, rather inflated; anterior side very short, sloped; umboes raised, sharp, nearly terminal; posterior side rather attenuated, obliquely sharply angular; angle a little serrated.

SOWERBY. Proc. Zool. Soc., 1834, p. 88.

Hab. —?

Species 10. (Mus. Brit.)

SAXICAVA GUERINII. *Sax. testā oblongā, angustā, rectiñscula; latere antico brevi, obliquè declivi, infrā subangulatā; latere postico elongato, ad terminum obtusè truncato; margine ventrali rectiñculo, medio excavato.*

GUERIN'S SAXICAVA. Shell oblong, narrow, rather straight; anterior side short, obliquely sloped, a little angular below; posterior side elongated, obtusely truncated at the end; ventral margin rather straight, excavated in the middle.

PAYRAudeau. Mollusca. Plate I.

Hab. Mediterranean Sea.

Species 11. (Mus. Brit.)

SAXICAVA ANGASII. *Sax. testā irregulariter rhomboideo, magnā, solidā, altā, subinæquivalvi, valdē inæquilaterali, flavido-rubescenti, fusco nebulatā; valva dextrā altiñscula, profundiorā; latere antico brevissimo, declivi; latere postico obliquè angulato, oblongo, ad terminum quadrato.*

ANGAS'S SAXICAVA. Shell irregularly rhomboidal, large, solid, elevated, rather inequivalve, very inequilateral, reddish yellow clouded with brown; right valve rather the higher and deeper; anterior side very short, sloped; posterior side obliquely angular, oblong, square at the end.

A. ADAMS. Proc. Zool. Soc., 1865, 643.

Hab. St. Vincent's Gulf, S. Australia.

The only species exhibiting anything like distinct colouring, excepting *Saxicava purpurascens*.

Species 12. (Mus. Brit.)

SAXICAVA SPINIFERA. *Sax. testā parvā, lœvigatā, supernè quadratā, infrā bilobatā; latere antico brevissimo, umbonibus terminalibus, margine ventrali profundè excavato; latere postico lato, truncato, margine dorsali et angulo obliquo decurrentibus spinis acutis prominentibus ornatis.*

SAXICAVA.—PLATE II.

THE SPINIFEROUS SAXICAVA. Shell small, smooth, square above, two-lobed below; anterior side very short, umboes terminal, ventral margin deeply excavated; posterior side broad, truncated, dorsal margin and obliquely decurrent angle ornamented with sharp prominent spines.

SOWERBY.

Hab. Savannah Bay.

The young of *Saxicava arctica*, *rugosa*, and *Australis* are spinose on the dorsal margin and posterior angle, but no specimen of either has been found with spines so prominent, or similar to this in other characters.

Species 13. (Mus. Deshayes? copied.)

SAXICAVA SIMILIS. *Sax. testā cuneiformi, oblongā, radiatim striatā, posticē biangulatā, ad angulos carinis subspiniferis duabus munitā; valvā dextrā majori, ventricosū, valvā sinistrā planiusculā; latere antico angusto, brevissimo; umbonibus terminalibus; latere postico expanso, ad terminum latē truncato.*

THE SIMILAR SAXICAVA. Shell cuneiform, oblong, radiately striated, posteriorly biangular, strengthened at the angles by two subspiniferous keels; right valve the larger, ventricose, left

valve rather flatter; anterior side narrow, very short; umboes terminal; posterior side expanded, broadly truncated at the end.

DESHAYES. Mollusques de l'Isle de la Réunion.

Hab. Isl. Bourbon.

M. Deshayes likens this little species to *Saxicava arctica*, from which it differs in being radiately striated and in the keel-like ridges on the angles.

Species 14. (Mus. Brit.)

SAXICAVA PURPURASCENS. *Sax. testā elongatā, angustā, rectid, concentricè rugatā; latere antico brevissimo, umbonibus prominentibus terminalibus; latere postico purpureo suffuso, elongato, obliquè angulato; ad angulum et infrā marginem dorsalem rugoso, carinato.*

THE PURPLISH SAXICAVA. Shell elongated, narrow, straight, concentrically wrinkled; anterior side very short, umboes prominent, terminal; posterior side suffused with purple, elongated, obliquely angular; with a wrinkled keel on the angle, and below the dorsal margin.

SOWERBY. Proc. Zool. Soc., 1834, p. 88.

Hab. —?

MONOGRAPH
OF THE GENUS
PUPPINIDÆ.

“All things that are, though they have several ways,
Yet in their being join with one advice
To honour Thee.”—*Trench.*



Pupina.



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PUPINIDÆ.

PLATE I.

Fam. PUPINIDÆ. (A. ADAMS.)

Animal terrestre. Testa pupaformis, operculum cornutum, multispirale.

Genus PUPINA. Vignard. *Testa brevis, nonnunquam nitens; apertura bicanaliculata. Sp. 1—34, 29 omissa.*

Genus HARGREAVESIA. Adams. *Testa brevis; apertura ad suturam uni-canaliculata. Sp. 29.*

Genus CALLIA. Gray. *Testa brevis, nitens, umbilico clauso, apertura margine integro. Sp. 35—38.*

Genus REGISTOMA. Hasselt. *Testa nitens; apertura margine infra columellam rimato. Sp. 39—47.*

Genus CATAULUS. Pfeiffer. *Testa pyramidata, perforata, ultimo anfractu infra carinato, apertura margine externo ad carinum producta. Sp. 48—65.*

Genus ARINIA. Adams. Sp. 66.

Genus POLICARIA. Adams. } *Umbilico serè clauso, aperturae margine Genus MEGALOMASTOMA. Guild. } interno integro. Sp. 67—92.*

Genus RAPHAULUS. Pfeiffer. *Apertura superne tubâ manita.*

Animal terrestrial, shell pupa-shaped, operculum horny; multispiral. Sp. 1—34.

PUPINA. Shell short, sometimes shining; aperture with two channels. Sp. 1—34. Omit 39.

HARGREAVESIA. Shell short; aperture with a channel at the suture. Sp. 39.

CALLIA. Shell short, shining; umbilicus closed; aperture with the margin entire.

REGISTOMA. Shell shining; aperture with the margin notched under the columella. Sp. 39—47.

CATAULUS. Shell pyramidal, perforated, last whorl keeled below, aperture with outer edge produced at the keel. Sp. 48—65.

ARINIA. Sp. 66.

POLICARIA and MEGALOMASTOMA. Umbilicus nearly closed, inner margin of the aperture entire. Sp. 67—92.

RAPHAULUS. Upper part of aperture provided with a tube.

The *Pupinidae* do not affect northern climates, but abound in India, Australia, also in the Pacific and other islands.

Species 1. (Mus. Sowerby. Pupina.)

PUPINA BILINGUIS. *Pup. testâ altâ, fulvâ, pupaformi, apice obtuso; anfractibus quinque, superioribus brevibus, ultimo inflato, subgloboso; apertura parvâ, circulari, canalibus duobus, obliquè elongatis, conspicuè callo-marginatis, arcuatâ.*

brevibus, penultimo alto, ultimo inflato, subgloboso; apertura parvâ, circulari, canalibus duobus, ad suturam uno, infra columellam altero, obliquè oblongis, arcuatâ, in tumores linguiformes productis.

THE DOUBLE-TONGUED PUPINA. Shell raised, fulvous, pupa-shaped, with obtuse apex; whorls five, upper short, penultimate high, last inflated, rather globose; aperture small, circular, with two canals, one at the suture, the other below the columella, obliquely oblong, curved, produced in two callous linguiform ridges.

PFEIFFER. Proc. Zool. Soc. Thes. Conch. *Pupinidae, Pupina.* Fig. 8, 9, 10.

Hab. East Australia.

The channels on the upper and lower part of the aperture are prolonged in two curved tongue-shaped callosities.

Species 2. (Mus. Sowerby.)

PUPINA VENTROSA. *Pup. testâ ventricosâ, semi-pellucidâ, breviter subpyramidalis; ultimo anfractu subgloboso; apertura obliquè oratâ, antice productâ, labio interno arcuato; canalibus dualibus calloso-marginatis, breviter arcuatim productis.*

THE INFLATED PUPINA. Shell ventricose, semi-pellucid, shortly rather pyramidal; last whorl rather globose; aperture obliquely ovate, anteriorly produced, inner lip arched; two callus-edged canals shortly arched, produced.

DOHRN. Adams. Sowb. Thes. *Pupinidae. Pupina.* Fig. 12, 13.

Hab. Cape York.

Species 3. (Mus. Sowerby.)

PUPINA ARTATA. *Pup. testâ ovatâ, albâ vel fulvâ, breviter pupaformi, apice obtuso; anfractibus quinque, superioribus brevibus, ultimo inflato, subgloboso; apertura parvâ, circulari, canalibus duobus, obliquè elongatis, conspicuè callo-marginatis, arcuatâ.*

THE JOINTED PUPINA. Shell ovate, white or fulvous, shortly pupa-shaped; apex obtuse; whorls five, upper short, last inflated, subglobose; aperture small, circular, canals two, obliquely elongated, conspicuously callus-edged, curved.

BENSON. Adams. Sowb. Thes. Conch. *Pupinidae, Pupina.* Fig. 1, 2.

Hab. Moulmein, India.

PUPINIDÆ.—PLATE I.

Species 4. (Mus. —? Copied.)

PUPINA GRANDIS. *Pup. testâ magnâ, ventricosâ, pupæformi, fuscâ, solidâ, apice obtuso; anfractibus septem, superioribus brevibus, penultimo inflato, ultimo alto, inflato; aperturâ parvâ, circulari, margine aurantio, crassissimo, latissimo, profundè bicanaliculato.*

THE LARGE PUPINA. Shell large, ventricose, pupa-shaped, brown, solid, with obtuse apex; whorls seven, upper short, last but one inflated, last high, inflated; aperture small, circular; margin orange, very thick, very broad, with two deep canals.

FORBES. Adams. Sowb. Thes. *Pupinidae*, Pupina, Fig. 20.

Hab. Louisiade Archipelago.

Species 5. (Mus. Hanley.)

PUPINA ARULA. *Pup. testâ albâ vel fulvâ, ovatâ, nitente, apice obtuso, anfractibus septem, superioribus brevissimis, ultimo maximo; aperturâ anticè obliquè productâ, labio externo rotundo, canali postico lato, antico producto, recurvo, columellâ brevi, latâ, truncatâ.*

THE LITTLE PLOUGH PUPINA. Shell white or fulvous, ovate, shining, with obtuse apex, whorls seven, upper very short, last very large; aperture obliquely produced in front, outer lip rounded, posterior canal broad, anterior produced, recurved; columella short, broad, truncated.

BENSON. Ann. Nat. Hist. Ser. 2, vol. 17, p. 230.

Hab. Birmah.

Species 6. (Mus. Hanley.)

PUPINA BLANFORDI. *Pup. testâ albidiâ, nitente, spirâ brevi, obtusâ, ultimâ subglobosa; aperturâ anticè obliquè producto; labio externo superne in sinus rotundum producto; columellâ brevissimâ, truncatâ, in canalem curvum terminante.*

BLANFORD'S PUPINA. Shell rather white, shining, spire short, obtuse, the last rather globose; aperture obliquely produced in front; outer lip produced into a rounded sinus, columella very short, truncated, ending in a curved canal.

THEOBALD. Journ. As. Soc. Bengal, 1864.

Hab. Pegu.

Species 7. (Mus. Hanley.)

PUPINA IMBRICIFERA. *Pup. testâ fuscâ, brevi, ovato-subpyramidalâ, nitente; anfractibus sex, superioribus brevibus, convexis, ultimo subgloboso; aperturâ anticè obliquè productâ, labio externo lato, complanato, margine interno in liram semicircu-*

larem elevato, canalibus duobus in tumores linguiformes productis.

THE IMBRICATED PUPINA. Shell brown, short, ovately subpyramidal, shining; whorls six, upper short, convex, last rather globose; aperture obliquely produced in front, outer lip broad, flattened, inner margin raised in semicircular ridge, canals two, produced in linguiform swellings.

BENSON. Ann. Nat. Hist. Ser. 2, vol. 17, p. 230.

Hab. Sylhet, Teria Ghat.

Species 8. (Mus. Sowerby.)

PUPINA MERIDIONALIS. *Pup. testâ altâ, pupæformi, acuminatâ, fulvâ, nitente; anfractibus sex, convexisculis; aperturâ circulari, margine rotundo; canalibus longisculis, callosis.*

THE SOUTHERN PUPINA. Shell elevated, pupa-shaped, acuminated, fulvous, shining; whorls six, rather convex; aperture circular; margin rounded; canals rather long, callous.

PFEIFFER. Proc. Zool. Soc. Sowb. Thes. *Pupinidae*, Pupina, Fig. 33.

Hab. South Australia.

Species 9. (Mus. Sowerby.)

PUPA PLANIFABRIS. *Pup. testâ altâ, pupæformi, fulvâ, nitente, apice acuminato; anfractibus convexisculis; aperturâ circulari; margine planulato; canale antico ad suturam elevato, calloso, columellâ tenui, ad terminum obliquè truncato, cuncato, canali brevissimo.*

THE FLAT-LIPPED PUPA. Shell high, pupa-shaped, fulvous, shining, apex acuminated; whorls rather convex; aperture circular; margin flattened; anterior canal raised at the suture, callous, columella thin, obliquely truncated at the end, cuneate, canal very short.

PFEIFFER. Proc. Zool. Soc. Adams. Sowb. Thes. Pupina, Fig. 34.

Hab. South Australia.

Species 10. (Mus. Brit.)

PUPINA AUREA. *Pup. testâ breviter pupæformi, aureo-fulvâ, nitente; anfractibus superioribus parvis, penultimo alto, inflato, ultimo subgloboso; aperturâ obliquè productâ, bicanaliferâ; canalibus productis, callonis.*

THE GOLDEN PUPINA. Shell shortly pupæform, golden fulvous, shining; upper whorls small, penultimate high, inflated, last rather globose; aperture obliquely produced, with two canals; canals produced, callous.

HINDS. Voy. Sulphur.

Hab. New Guinea.

PUPINIDÆ.

PLATE I.

Fam. PUPINIDÆ. (A. ADAMS.)

Animal terrestre. Testa pupæformis, operculum cornutum, multispirale.

Genus PUPINA. Vignard. *Testa brevis, nonnunquam nitens; apertura bicanaliculata.* Sp. 1—34, 29 omissâ.

Genus HARGREAVESIA. Adams. *Testa brevis; apertura ad suturam uni-canaliculata.* Sp. 29.

Genus CALLIA. Gray. *Testa brevis, nitens, umbilico clauso, apertura marginé integro.* Sp. 35—38.

Genus REGISTOMA. Hasselt. *Testa nitens; apertura marginé infra columellam rimato.* Sp. 39—47.

Genus CATAULUS. Pfeiffer. *Testa pyramidata, perforata, ultimo anfractu infra carinato, apertura marginé externo ad carinam producta.* Sp. 48—65.

Genus ARINIA. Adams. Sp. 66.

Genus POLLICARIA. Adams. } *Umbilico ferè clauso, aperturæ marginé*
Genus MEGALOMASTOMA. Guild. } *interno integro.* Sp. 67—92.

Genus RAPHAULUS. Pfeiffer. *Apertura supernè tubâ minuta.*

Animal terrestrial, shell pupæ-shaped, operculum horny; multispiral. Sp. 1—34. Omit 39.

PUPINA. Shell short, sometimes shining; aperture with two channels. Sp. 1—34. Omit 39.

HARGREAVESIA. Shell short; aperture with a channel at the suture. Sp. 39.

CALLIA. Shell short, shining; umbilicus closed; aperture with the margin entire.

REGISTOMA. Shell shining; aperture with the margin notched under the columella. Sp. 39—47.

CATAULUS. Shell pyramidal, perforated, last whorl keeled below, aperture with outer edge produced at the keel. Sp. 48—65.

ARINIA. Sp. 66.

POLLICARIA and MEGALOMASTOMA. Umbilicus nearly closed, inner margin of the aperture entire. Sp. 67—92.

RAPHAULUS. Upper part of aperture provided with a tube.

The Pupinidae do not affect northern climates, but found in India, Australia, also in the Pacific and other islands.

Species 1. (Mus. Sowerby. Pupina.)

PUPINA BILINGUIS. *Pup. testâ alta, fulva, pupæformi, apice obtuso; anfractibus quinque, superioribus brevibus, ultimo inflato, subglobosa; apertura parvâ, circulari, canalibus duobus, obliquè elongatis, conspicuè callo-marginatis, arcuatis.*

brevibus, penultimo alto, ultimo inflato, subgloboso; apertura parvâ, circulari, canalibus duobus, ad suturam uno, infra columellam altero, obliquè oblongis, arcuatis, in tumores linguiformes productis.

THE DOUBLE-TONGUED PUPINA. Shell raised, fulvous, pupæ-shaped, with obtuse apex; whorls five, upper short, penultimate high, last inflated, rather globose; aperture small, circular, with two canals, one at the suture, the other below the columella, obliquely oblong, curved, produced in two callous linguiform ridges.

PFEIFFER. Proc. Zool. Soc. Thes. Conch. *Pupinidae, Papina.* Fig. 8, 9, 10.

Hab. East Australia.

The channels on the upper and lower part of the aperture are prolonged in two curved tongue-shaped callosities.

Species 2. (Mus. Sowerby.)

PUPINA VENTROSA. *Pup. testâ ventricosa, semi-pellucida, breviter subpyramidalis; ultimo anfractu subgloboso; apertura obliquè ovatâ, antice productâ, labio interno arcuato; canalibus duobus callosa-marginatis, breviter arcuatim productis.*

THE INFLATED PUPINA. Shell ventricose, semi-pellucid, shortly rather pyramidal; last whorl rather globose; aperture obliquely ovate, anteriorly produced, inner lip arched; two callus-edged canals shortly arched, produced.

DONRN. Adams. Sowb. Thes. *Pupinidae. Papina.* Fig. 12, 13.

Hab. Cape York.

Species 3. (Mus. Sowerby.)

PUPINA ARTATA. *Pup. testâ ovatâ, albâ vel fulrâ, breviter pupæformi, apice obtuso; anfractibus quinque, superioribus brevibus, ultimo inflato, subglobosa; apertura parvâ, circulari, canalibus duobus, obliquè elongatis, conspicuè callo-marginatis, arcuatis.*

THE JOINTED PUPINA. Shell ovate, white or fulvous, shortly pupæ-shaped; apex obtuse; whorls five, upper short, last inflated, subglobose; aperture small, circular, canals two, obliquely elongated, conspicuously callus-edged, curved.

BENSON. Adams. Sowb. Thes. Conch. *Pupinidae, Papina,* Fig. 1, 2.

Hab. Moulmein, India.

PUPINIDÆ.—PLATE I.

Species 4. (Mus. —? Copied.)

PUPINA GRANDIS. *Pup. testá nigrâ, ventricosâ, pupaeformi, fuscâ, solidâ, apice obtuso; anfractibus septem, superioribus brevibus, penultimo inflato, ultimo alto, inflato; aperturâ parvâ, circulari, marginâ aurantio, crassissimo, latissimo, profundi bicanalifero.*

THE LARGE PUPINA. Shell large, ventricose, pupa-shaped, brown, solid, with obtuse apex; whorls seven, upper short, last but one inflated, last high, inflated; aperture small, circular; margin orange, very thick, very broad, with two deep canals.

FORBES. Adams. Sowb. Thes. *Pupinidae*, Pupina, Fig. 20.

Hab. Louisiade Archipelago.

Species 5. (Mus. Hanley.)

PUPINA ARULA. *Pup. testá albâ vel fulvâ, ovatâ, nitente, apice obtuso, anfractibus septem, superioribus brevissimis, ultimo maximo; aperturâ anticè obliquè productâ, labio externo rotundo, canali postico lato, antico producto, recurvo, columellâ brevi, latâ, truncatâ.*

THE LITTLE PLOUGH PUPINA. Shell white or fulvous, ovate, shining, with obtuse apex, whorls seven, upper very short, last very large; aperture obliquely produced in front, outer lip rounded, posterior canal broad, anterior produced, recurved; columella short, broad, truncated.

BENSON. Ann. Nat. Hist. Ser. 2, vol. 17, p. 230.

Hab. Birmah.

Species 6. (Mus. Hanley.)

PUPINA BLANFORDI. *Pup. testá albidiâ, nitente, spirâ brevi, obtusâ, ultimo subgloboso; aperturâ anticè obliquè producto; labio externo superne in sinus rotundum producto; columellâ brevissimâ, truncatâ, in canalem curvum terminante.*

BLANFORD'S PUPINA. Shell rather white, shining, spire short, obtuse, the last rather globose; aperture obliquely produced in front; outer lip produced into a rounded sinus, columella very short, truncated, ending in a curved canal.

THEOBALD. Journ. As. Soc. Bengal, 1864.

Hab. Pegu.

Species 7. (Mus. Hanley.)

PUPINA IMBRICIFERA. *Pup. testá fuscâ, brevi, ovato-subpyramidalâ, nitente; anfractibus sex, superioribus brevibus, convexis, ultimo subgloboso; aperturâ anticè obliquè productâ, labio externo lato, complanato, margine interno in liram semicircu-*

larem elevato, canalibus duobus in tumores lingiformes productis.

THE IMBRICATED PUPINA. Shell brown, short, ovately subpyramidal, shining; whorls six, upper short, convex, last rather globose; aperture obliquely produced in front, outer lip broad, flattened, inner margin raised in semicircular ridge, canals two, produced in lingiform swellings.

BENSON. Ann. Nat. Hist. Ser. 2, vol. 17, p. 230.
Hab. Sylhet, Teria Ghat.

Species 8. (Mus. Sowerby.)

PUPINA MERIDIONALIS. *Pup. testâ altâ, pupiformi, acuminatâ, fulcâ, nitente; anfractibus sex, convexisculis; aperturâ circulari, margine rotundo; canalibus longisculis, callosis.*

THE SOUTHERN PUPINA. Shell elevated, pupa-shaped, acuminated, fulvous, shining; whorls six, rather convex; aperture circular; margin rounded; canals rather long, callous.

PFEIFFER. Proc. Zool. Soc. Sowb. Thes. *Pupinidae*, Pupina, Fig. 33.

Hab. South Australia.

Species 9. (Mus. Sowerby.)

PUPA PLANILABRIS. *Pup. testâ altâ, pupiformi, fulci, nitente, apice acuminato; anfractibus convervisculis; aperturâ circulari; margine planulato; canale antico ad suturam elevato, calloso, columellâ tenui, ad terminum obliquè truncato, cuneato, canali brevissimo.*

THE FLAT-LIPPED PUPA. Shell high, pupa-shaped, fulvous, shining, apex acuminated; whorls rather convex; aperture circular; margin flattened; anterior canal raised at the suture, callous, columella thin, obliquely truncated at the end, cuneate, canal very short.

PFEIFFER. Proc. Zool. Soc. Adams. Sowb. Thes. Pupina, Fig. 34.

Hab. South Australia.

Species 10. (Mus. Brit.)

PUPINA AUREA. *Pup. testâ breviter pupiformi, aureo-fulvâ, nitente; anfractibus superioribus partis, penultimo alto, inflato, ultimo subgloboso; aperturâ obliquè productâ, bicanalifera; canalibus productis, callosis.*

THE GOLDEN PUPINA. Shell shortly pupaform, golden-fulvous, shining; upper whorls small, penultimate high, inflated, last rather globose; aperture obliquely produced, with two canals; canals produced, callous.

HINDS. Voy. Sulphur.

Hab. New Guinea.

THE SOCIETY
(LITERARY)

Pupina



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PUPINIDÆ.

(PUPINA.)

PLATE II.

Species 11. (Mus. Brit.)

PUPINA BICANALICULATA. *Pup. testâ fulvâ, subaureâ, translucidâ, ventricosâ, obliquâ, politâ; anfractibus ultimo et penultimo latis, inflatis, allis; aperturâ obliquâ, columellâ brevi, truncato, callo suturali elongato, labio externo supernè sinuatim depresso, albo, rotundo, anticè obliquè producto.*

THE DOUBLE-CHANNELLED PUPINA. Shell fulvous, slightly golden, translucent, ventricose, oblique, polished; last two whorls broad, inflated, elevated; aperture oblique, columella short, truncated; sutural callus elongated, outer lip sinuously depressed above, narrow, white, rounded, obliquely produced in front.

SOWERBY. Thesaurus, first Monograph.

Hab. Sibonga, Island of Zebu, Philippines.

Species 12. (Mus. Brit.)

PUPINA KERAUDRENI. *Pup. testâ angustâ, fulvâ, politâ, apice obtuso; anfractibus ultimo et penultimo allis; aperturâ parvâ, columellâ brevissimâ, acutâ; callo suturali inconspicuo, labio externo angusto, obliquè producto.*

KERAUDREN'S PUPINA. Shell narrow, fulvous, polished; apex obtuse, last two whorls high; aperture small, columella very short, sharp; sutural callus inconspicuous, outer lip narrow, obliquely produced.

VIGNAL. Proc. Zool. Soc. 1864, p. 162. Ad. Thes. Conch.

Hab. New Ireland.

Species 13. (Mus. Brit.)

PUPINA MOUHOTI. *Pup. testâ subaureâ, ventricosâ, spirâ acuminatâ; anfractibus quinque, rapidè crescentibus, ultimo subgloboso; aperturâ obliquâ, callo suturali conspicuo, columellâ margine interno*

reflexo, termino truncato, labio externo obliquè producto, crassiunculo, supernè depresso.

MOUHOT'S PUPINA. Shell rather golden, ventricose, spire acuminate; whorls five, rapidly increased, the last subglobose; aperture oblique, sutural callus conspicuous, inner margin of the columella reflected, truncated at the end, outer lip obliquely produced, rather thick, depressed above.

PFEIFFER. Proc. Zool. Soc. 1861, 196.

Hab. Camboja.

Species 14. (Mus. Brit.)

PUPINA ANGASHI. *Pup. testâ ventricosâ, solidâ, rubescenti, obliquâ; anfractibus quinque, suturâ crenulatâ separatis, penultimo maximo, inflato, ultimo anticè obliquè subangustato; aperturâ rotundâ, bicanaliculatâ, margine lato, crasso, integro, retrorsum reflexo.*

ANGAS'S PUPINA. Shell ventricose, solid, reddish, oblique; whorls five, separated by a crenulated suture, penultimate whorl very large, inflated, the last a little narrowed obliquely in front; aperture rounded, with two canals, margin broad, thick, entire, reflected backwards.

ADAMS. Proc. Zool. Soc. 1875. Pl. 45.

Hab. South Australia.

Species 15. (Mus. — ? Copied.)

PUPINA MOULINSIANA. *Pupa testâ ventricosâ, striatâ, flavidâ; anfractibus quinque, tribus superioribus brevibus, rotundis, penultimo majori, inflatâ, ultimo rectiunculo magno; aperturâ subrotundatâ, margine crasso, albo, rimâ superiori angusto, inferiori magno, columellâ brevi, ad terminum angulato, lato, labio externo rotundo, supernè obliquè depresso.*

MOULINS' PUPINA. Shell ventricose, striated, yellowish; whorls five, three upper short, rounded,

PUPINIDÆ.—PLATE II.

penultimate larger, inflated, last rather straight, large; aperture rather rounded, margin thick, white, upper notch narrow, lower large, columella short, angular at the end, broad, outer lip rounded, obliquely depressed above.

FISCHER et BERNADI. Adams, Sowb. Thes. Conch. No. 25.

Hab. N. Caledonia.

Species 16. (Mus. Brit.)

PUPINA HUMILIS. *Pup. testâ subpyramidalî, aureo-fuscâ; anfractibus quinque, tribus superioribus brevissimis, rotundis, penultimo majori, inflato, ultimo magno, rotundo; aperturâ anticè circulari, canali antico candalâ, rimâ posticâ magnâ, labio externo rotundo, posticè obliquè depresso, anticè ante canalem contractu.*

THE HUMBLE PUPINA. Shell rather pyramidal, golden-brown; whorls five, three upper ones very short, rounded, the penultimate larger, inflated, last large, rounded; aperture rounded, anterior canal caudal, posterior notch large, outer lip rounded, posteriorly obliquely depressed, anteriorly contracted in front of the canal.

JACQUENOT. Adams, Sowb. Thes. Conch. No. 25.

Hab. New Guinea.

Species 17. (Mus. Brit.)

PUPINA SUPERBA. *Pup. testâ fuscâ, obliquâ; anfractibus quinque, tribus superioribus brevissimis, rotundis, penultimo declivi, majori, ultimo magno; aperturâ anticè productâ, margine aureo, rotundo, rimâ posticâ magnâ, obliquâ, anticè obliquè retrorsâ (acclivi).*

THE SUPERB PUPINA. Shell brown, oblique; whorls five, three upper very short, rounded, penultimate sloped, larger, last large; aperture anteriorly produced, margin golden, rounded, posterior notch large, oblique, anterior obliquely turned back (sloped upwards).

PEIFFER. Mon. Heliceorum.

Hab. Sumatra.

Species 18. (Mus. Brit.)

PUPINA VESCOI. *Pup. testâ globoso-pyramidalî, brevi, politâ, subaureâ; anfractu ultimo inflato, rotundo; aperturâ obliquè ovatâ, anticè productâ; rimâ*

posticâ rotundâ, callo parvo, acuminato, columellâ brevissimâ, labio externo posticè obliquè depresso, ante columellam contracto.

VESCOE'S PUPINA. Shell globose-pyramidal, short, polished, rather golden; last whorl inflated, rounded; aperture obliquely ovate, anteriorly produced; posterior notch rounded, callus small, acuminate, columella very short, outer lip posteriorly obliquely depressed, contracted in front of the columella.

MORELET. Adams, Sowb. Thes. Conch. No. 25.

Hab. Paulo Condor.

Species 19. (Mus. Sowerby.)

PUPINA BORNEENSIS. *Pup. testâ aureo-fuscâ, politâ, pyramidalî; anfractibus quinque, convexis, gradatim crescentibus; aperturâ subrotundâ, anticè obliquè productâ, margine crassissimo, albo, rotundo; rimâ posticâ inconspicua, columellâ obliquè truncata.*

THE BORNEAN PUPINA. Shell golden-brown, polished, pyramidal; whorls five, convex, gradually increased; aperture rather round, anteriorly obliquely produced, margin rather thick, white, rounded; posterior notch inconspicuous, columella obliquely truncated.

PEIFFER. Proc. Zool. Soc. Adams, Sowb. Thes. No. 25.

Hab. Borneo.

Species 20. (Mus. Brit.)

PUPINA PUPINIFORMIS. *Pup. testâ pyramidalî, rubro-fuscâ, politâ; anfractibus octo, gradatim crescentibus, rotundatis, apice acuminato; aperturâ rotundâ, obliquè paulò producto, canali postico parvo, rimâ anticâ angustâ, columellâ brevissimâ, latâ, labio externo planulato, ad rimam sinu recurvo.*

THE PUPINA-SHAPED PUPINA. Shell pyramidal, reddish brown, polished; whorls eight, gradually increased, rounded, apex acuminate; aperture rounded, a little produced obliquely, posterior canal small, anterior slit narrow, columella very short, broad, outer lip flattened, with a re-curved sinus at the back.

SOWERBY. Thes. Conch. No. 25, *Pupinidae*, Pl. III. f. 38-9.

Hab. Philippines.



Pupina.



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28^b



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PUPINIDÆ.

PLATE III.

Species 21. (Mus. Brit.)

PUPINA PFEIFFERI. *Pup. testâ alta, angustâ, tenui, fulvâ, semi-pellucidâ, obliquâ; anfractibus quinque, superioribus quatuor brevibus, rotundis, ultimo alto, rectiunculo; aperturâ parvâ, obliquâ sub-ovatâ, productâ, canali postico et callo suturali conspicuis, columellâ brevissimâ, labio externo tenui, albo, rotundo, superne depresso.*

PFEIFFER'S PUPINA. Shell elevated, narrow, thin, fulvous, semi-pellucid, oblique; whorls five, the four upper short, rounded, the last high, rather straight: aperture small, obliquely sub-ovate, produced, posterior canal and sutural callus conspicuous, columella very short, outer lip thin, white, rounded, depressed above.

DORRIS. Adams, Sowb. Thes. No. 24-5.

Species 22. (Mus. Brit.)

PUPINA THOMPSONI. *Pup. testâ solidâ, obliquâ, fulvâ, politâ, medio sub-inflatâ, apice acuminato; anfractibus quinque, ultimo magno; aperturâ antice obliquâ productâ, margine albo, callo suturali linguisiformi, labio interno calloso, continuo, columellâ latâ, obliquâ, truncatâ.*

THOMPSON'S PUPINA. Shell solid, oblique, fulvous, polished, inflated in the middle, apex acuminate; whorls five, the last large; aperture anteriorly obliquely produced, margin white, sutural callus tongue-shaped, inner lip callous, continuous, columella broad, oblique, truncated.

FORBES. A. Adams, Mon. Sowb. Thes. *Pupinidae*, Pl. III. f. 18.

Hab. Australia.

Species 23. (Mus. Sowerby.)

PUPINA MITIS. *Pup. testâ brevi, levi, fulvâ, subinflatâ, apice obtuso; anfractibus quatuor, penultimo inflato, brevi, ultimo magno; aperturâ obliquâ productâ, labio externo albo, angusto, callo suturali parvo, columellâ brevissimâ, acuminatâ.*

THE MELLOW PUPINA. Shell short, smooth, fulvous, rather inflated, apex obtuse; whorls four, penultimate inflated, short, last large; aperture obliquely produced, outer lip white, narrow, sutural callus small, columella very short, acuminated.

A. ADAMS —? Sowerby's Thes. Conch. *Pupinidae*, Pl. III. f. 19.

Hab. New Ireland.

Species 24. (Mus. Brit.)

PUPINA STRANGEI. *Pup. testâ subcylindrica, fulvâ, politâ, medio inflatâ, apice breviter acuminato; anfractibus quinque, tribus apicalibus brevissimis, parvis, penultimo magno, inflato, ultimo mediocri; aperturâ parvâ, obliquâ, callo suturali linguiformi, labio interno marginato, columellâ brevisimâ.*

STRANGE'S PUPINA. Shell subcylindrical, fulvous, polished, inflated in the middle, apex shortly acuminate; whorls five, three apical, very short, small, penultimate large, inflated, last middle-sized; aperture small, oblique, sutural callus tongue-shaped, inner lip bordered, columella very short.

PFEIFFER. Mon. Hel. Sowb. Thes. *Pupina*, Fig. 24.

Hab. Moreton Bay.

The inflation of the penultimate whorl, and the comparatively cylindrical form, distinguish this species from several of the preceding.

Species 25. (Mus. —? Copied.)

PUPINA OTTONIS. *Pup. testâ ventricosa, fulvo-rubescens, rectiunculâ, brevi, politâ; spirâ breviter pyramidatâ; anfractibus quinque, gradatim crescentibus, ultimo magno, globoso; aperturâ subrotundâ, margine albo, columellâ latâ, truncatâ, callo suturali subdistanti.*

PUPINIDÆ.—PLATE III.

OSSO'S PUPINA. Shell ventricose, reddish-fawn, rather straight, short, polished; spire shortly pyramidal; whorls five, gradually increased, the last large, globose; aperture rather round, margin white, columella broad, truncated, sutural callus rather distant.

DORHN. —? Adams, Sowb. Thes. *Pupinidae*, Part 25, Pl. III. f. 25.

Hab. Isl. Luzon, Philippines.

Species 26. (Mus. Brit.)

PUPINA NICOBARICA. *Pup. testâ obliquâ, ventricosâ, fulvo-rubescenti, politâ; anfractibus quatuor, tribus superioribus brevibus, rapidè crescentibus, ultimo alto, inflato; aperturâ circulari, labio externo albo, anticè obliquè producto, callo suturali mediocri, columellâ brevi truncato.*

THE NICOBAR PUPINA. Shell oblique, ventricose, fulvous-reddish, polished; whorls four, three upper short, rapidly increased, last high, inflated; aperture circular, outer lip white, anteriorly obliquely produced; sutural callus middle-sized, columella short, obliquely truncated.

PFEIFFER. Adams, Sowb. Thes. No. 24-5, *Pupinidae*, *Pupa*, f. 27.

Hab. Nicobar.

Species 27. (Mus. Brit.)

PUPINA RUFA. *Pup. testâ rectâ, subpyramidalâ, elevatâ, rufo-fusca, ad suturam albo-fasciatâ, apice obtuso; anfractibus quinque, aequaliter crescentibus; aperturâ circulari, margine albido, labio externo rotundo, labio interno valido, callo suturali conspicuo, columellâ crassâ, ad terminum cuneatâ.*

THE REDDISH PUPINA. Shell straight, rather pyramidal, elevated, reddish-brown, with a whitish band at the suture, apex obtuse; whorls five, equally increased; aperture circular, margin whitish, outer lip round, inner lip strong, sutural callus conspicuous, columella thick, cuneate at the end.

PFEIFFER. Adams, Sowb. Thes. Conch. No. 25. *Pupina*, f. 29.

Hab. Japan.

Species 28. (Fig. *a*, *b*. Mus. Brit.)

PUPINA MINDOROENSIS. *Pup. testâ breviunculâ, pyramidalâ, albâ vel fusca, politâ, spirâ subacuminatâ; anfractibus quinque, aequaliter crescentibus, superioribus rotundis, ultimo convexiusculo; aperturâ circulari, labio externo lato, canali postico et rimâ anticâ magnis, columellâ breviunculâ, latâ, truncatâ.*

THE MINDORO PUPINA. Shell rather short, pyramidal, white or brown, polished, spire a little acuminated; whorls five, equally increased, upper ones rounded, the last rather convex; aperture circular, outer lip broad, posterior canal and anterior notch large, columella rather short, rather broad, truncated.

ADAMS & REEVE. Voy. Sam.

Hab. Japan.

HARGRAVESIA. (Adams.)

Canali postico magno, rimâ anticâ nullâ.

Posterior canal large, no anterior notch.

Species 29. (Mus. Sowerby.)

HARGRAVESIA POLITA. *Har. testâ inflatâ, subpyramidalâ, fulvâ, politâ, breviunculâ; anfractibus quinque, tribus superioribus brevibus, rapidè crescentibus, penultimo inflato, ultimo magno; aperturâ circulari, obliquè productâ, canali postico elongato, callo suturali linguiformi, labio externo vix incrassato, cum interno anticè continuo.*

THE POLISHED HARGRAVESIA. Shell inflated, rather pyramidal, fulvous, polished; rather short; whorls five, the three upper ones short, quickly increased, penultimate inflated, last large; aperture circular, obliquely produced, posterior canal elongated, sutural callus linguiform, outer lip scarcely thickened, anteriorly continuous with the inner lip.

A. ADAMS. Proc. Zool. Soc. 1870.

Hab. Solomon Islands.



Pupina

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51a

Callia

54b



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PUPINAE.

PLATE IV.

Species 30. (Mus. —? Copied.)

PUPINA SWINHOEI. *Pup. testā rectā, pyramidatā, sub-
ventricosa, politā; spirā acuminate, anfractibus
sex, convexis, ferè aequaliter crescentibus; aper-
tūrā vix circulari, canalibus postico et antico ro-
tundis, lati; columellā lati, subfoveolatā, latē
truncatā, labio externo plato, duplice.*

SWINHOE'S PUPINA. Shell straight, pyramidal, rather ventricose, polished; spire acuminate; whorls six, convex, almost equally increased; aperture scarcely circular; posterior and anterior canals rounded, broad; columella broad, rather hollowed, broadly truncated; outer lip broad, doubled.

ADAMS (Pupinopsis). Proc. Zool. Soc. 1866, p. 318.
Hab. Isl. Formosa.

Species 31. (Mus. Sowerby.)

PUPINA PINETICOLA. *Pup. testā parvā, levigatā, brevi,
fulvā; anfractibus quatuor, duobus superioribus
parvis, penultimo inflato, ultimo magno, infra
obliquè subattenuato; aperturā antice productā,
circulari.*

THE PINE-INHABITING PUPINA. Shell small, smooth, short, fulvous; whorls four, two upper small, last but one inflated, last large, obliquely rather attenuated; aperture anteriorly produced, circular.

Cox. Proc. Zool. Soc. 1866, p. 375.
Hab. Australia.

Species 32. (Mus. Sowerby.)

PUPINA DIFFICILIS. *Pup. testā parvā, subcylindrica,
politā, pallide aurantio-fulvā; anfractibus quatuor,
tribus superioribus brevibus, aequaliter crescenti-
bus, ultimo majuscule; aperturā obliquā, canali*

*postico lato, columellā brevi, acutā, labio externo
obliquè productō, aurantio, crassiùsculo.*

THE DIFFICULT PUPINA. Shell small, rather cylindrical, polished, pale orange, fulvous; whorls four, three upper short, equally increased, last rather large; aperture oblique, posterior canal broad, columella short, acute, outer lip obliquely produced, orange, rather thick.

SEMPER. Proc. Zool. Soc. 1864, p. 252.

Hab. Pelew Island.

Species 33. (Mus. Brit.)

PUPINA ADAMSI. *Pup. testā altd, subpyramidati,
aurantio-fusca, politā; anfractibus sex, superiori-
bus rotundis, gradatim crescentibus, ultimo ma-
juscule, convezo; aperturā rotundā, labio interno
valido, canali postico elongato, arenato, collo su-
turali valido, columellā lati, crasso, truncato,
labio externo supernè sinuato, duplice.*

ADAMS' PUPINA. Shell elevated, somewhat pyramidal, orange-brown, polished; whorls six, upper ones rounded, gradually increasing, last rather large, convex; aperture rounded; inner lip strong, posterior canal elongated, curved, sutural callus strong, columella broad, thick, truncated, outer lip sinuous above, doubled.

SOWERBY. *Pupinella Swinhœi*, A. Adams. Proc. Zool. Soc. 1866, p. 318.

Hab. Isl. Formosa.

(*CALLIA*.)

Species 34. (Fig. a, b, Mus. Sowerby.)

CALLIA LUBRICA. *Cal. testā ventricosa, breviter obliquā,
fulvā vel luteā, politissimā; anfractibus quatuor,
tribus brevibus, ultimo magno, lateraliter gibboso;
aperturā rotundā, margine albo rotundo.*

THE SHINING CALLIA. Shell ventricose, short, ob-

PUPINIDÆ.—PLATE IV.

lique, fulvous, or yellowish, brightly polished; whorls four, three short, last large, gibbous at one side; aperture rounded, margin white, rounded.

SOWERBY (*Papina*). *Thesaurus Conchyliorum. Pupina* (first monograph), No. 1.

Hab. Isl. Panay, Philippines.

Species 35. (Fig. a, b, Mus. Sowerby.)

CALLIA SPLENDENS. *Cal. testâ pyramidalâ, subcentricosâ, fused, politâ; spirâ acuminatâ; anfractibus quatror, rapidâ crescentibus; aperturâ rotundâ, margine angusto, rotundo.*

THE SPLENDENT CALLIA. Shell pyramidal, rather ventricose, brown, polished; spire acuminate, whorls four, rapidly increased; aperture rounded, margin narrow, rounded.

DORINI. —? Adams in Sowerby's *Thesaurus Conchyliorum*, No. 25.

Hab. Lizard Island.

More regularly pyramidal than the preceding, with gradually increasing whorls.

Species 36. (Mus. Sowerby.)

CALLIA AURITA. *Cal. testâ angustiunculâ, albida, politissimâ, obliquâ; anfractibus quatror, tribus breviusculis, ultimo majuscule; aperturâ obliquâ productâ, margine rotundo.*

THE EARED CALLIA. Shell rather narrow, whitish very polished, oblique; whorls four, three rather short, last rather large; aperture obliquely produced, margin rounded.

ZEIGLER —?

Hab. —?

Believing, from the narrower form of this shell,

that it differs from *Callia rubra*, I have adopted the name which I find attached in manuscript to a number of specimens.

Species 37. (Mus. Sowerby.)

CALLIA AMBIGUA. *Cal. testâ ventricosâ, subpyramidalâ, brevi, politâ, pallidâ fulvescenti; anfractibus quinque, ultimo majuscule; aperturâ rotundâ, obliquâ productâ, margine aurantio, columellâ ad dorsum perforatâ.*

THE AMBIGUOUS CALLIA. Shell ventricose, rather pyramidal, short, polished, pale fulvous; whorls five, the last rather large; aperture rounded, obliquely produced, margin orange, columella perforated at the back.

SEMPER —? (*Registoma*). Adams, in Sowerby's *Thesaurus, Pupinidae*, Pl. II. *Registoma*, f. ?.

Hab. Isl. Luzon, Philippines.

The minute perforation, visible only at the side or back of the columella, constitute this species a link between the *Registomæ*, which have a distinct notch or canal, and the *Callia*, which have the margin of the aperture quite entire. The shell, however, is much more nearly related to the latter than to the former subgenus.

Species 38. (Fig. a, b, Mus. Sowerby.)

CALLIA WALLACEI. *Cal. testâ aureo-fulgâ, politâ, obliquâ distortâ; anfractibus quatror, apicalibus planulatis, ad dorsum retrorsis; aperturâ parva, rotundâ, simplici.*

WALLACE'S CALLIA. Shell golden-fulvous, polished, obliquely distorted; whorls four, the apical ones flattened, turned over the back; aperture small, rounded, simple.

PFEIFFER —? Adams, in Sowerby's *Thesaurus, Part 24-5. Pupinidae*, Pl. III. *Callia*, f. 7, 8.

Hab. Ceram.



Registoma.



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PUPINIDÆ

(REGISTOMA.)

PLATE V.

Species 39. (Mus. Brit.)

REGISTOMA EXIGUUM. *Reg. testâ pallidâ fulvâ, angustâ, subcylindricâ, politâ; apice obtuso; anfractibus quatuor, penultimo tumido, ultimo magno; aperturâ subrotundâ, obliquâ productâ, margine angusto, rimâ antica angustissimâ.*

THE NARROW REGISTOMA. Shell pale fulvous, narrow, rather cylindrical, polished; apex obtuse; whorls four, penultimate tumid, last large; aperture rather round, obliquely produced, margin narrow, anterior slit very narrow.

SOWERBY. Thes. Conch. *Pupinidae*, Pl. II. Registoma, f. 8.

Hab. Isl. Luzon, Philippines.

Differing from *Registoma Cumingiana* in form being less elongated, and in the linear notch.

Species 40. (Mus. Brit.)

REGISTOMA VITREUM. *Reg. testâ pyramidatâ, brevi, hyalinâ, fusco-rubescenti; anfractibus sex, brevibus, ferè aequaliter crescentibus, tumidis; aperturâ subcirculari, margine incrassato, reflexo, aurantio, columellâ crassiunculâ, obliquâ truncatâ.*

THE GLASSY REGISTOMA. Shell pyramidal, short, hyaline, brownish-red; whorls six, short, almost equally increasing, tumid; aperture rather circular, margin thickened, reflected, orange, columella rather thick, obliquely truncated.

SOWERBY. Adams, Thes. Conch. *Pupinidae*, Pl. II. Registoma, f. 7.

Hab. Isl. Luzon, Philippines.

Species 41. (Mus. Sowerby.)

REGISTOMA CUMINGIANA. *Reg. testâ exigua, altâ, pallidâ fulvâ vel albâ, politâ, solidiusculâ, medio et supra tumida; anfractibus quinque, apicalibus parvis, alteris tumidis, altis, ultimo altissimo, ob-*

liquo; aperturâ rotundâ, obliquâ productâ, matrice angusta, rotunda, rimâ antica linearis.

THE CUMINGIAN REGISTOMA. Shell narrow, raised, pale fulvous, or white, polished, rather solid, tumid in the middle and above, high, the last very high, oblique; aperture round, obliquely produced, margin narrow, rounded, anterior notch linear.

PFEIFFER. Adams, Sowerby's *Thesaurus Conchyliorum*, *Pupinidae*, Pl. II., *Registoma*, f. 12, 13.
Hab. New Caledonia.

Species 42. (Mus. Sowerby.)

REGISTOMA GRANDE. *Reg. testâ obliquâ subglobosa, politâ, aurantia, vel lactea, vel purpurascens; anfractibus quinque, tribus superioribus brevissimis, dorso restringit; penultimo brevi, obliquâ, ultimo subgloboso, versus aperturam obliquâ gibboso, medio planulato; aperturâ obliquâ productâ, labio externâ expenso, columellâ planulata, truncatâ; rimâ rotundatâ.*

THE LARGE REGISTOMA. Shell obliquely subglobose, polished, orange or milk-white, or purplish; whorls five, three upper very short, turned over the back, last but one short, oblique, last rather globose, obliquely gibbous towards the aperture, flattened in the middle; aperture obliquely produced, outer lip expanded, columella flattened, truncated; notch rounded.

GRAY. Adams, Sowerby's *Thes. Conch. Pupinidae*, Pl. II., *Registoma*, f. 1, 2, 3.

Hab. Philippines.

Species 43. (Mus. Sowerby.)

REGISTOMA FUSCUM. *Reg. testâ altâ, pyramidatâ, fusco-rubescenti, politâ; spirâ acuminatâ; anfractibus 7, breviunculis, levè crescentibus, con-*

PUPINIDÆ.—PLATE V.

vexis, ultimo subrotundo; aperturâ subcirculari, marginè aurantio, labio externo rotundo, columellâ rectâ, truncatâ, rimâ rotundâ.

THE BROWN REGISTOMA. Shell high, pyramidal, reddish-brown, polished; spire acuminate; whorls seven, rather short, slowly increased, convex, the last rather round; aperture rather circular, margin orange, outer lip rounded, columella straight, truncated, notch round.

GRAY. Adams, Sowb. Thes. Conch. *Pupinidae*, Registoma, f. 4, 5.

Hab. Philippines.

Species 44. (Mus. Sowerby.)

REGISTOMA SIMILE. *Reg. testâ altâ, subventricosâ, fulvâ, politâ, subpyramidalâ, spirâ obtusâ; anfractibus septem, superioribus brevissimis, lentè crescentibus, convexis, penultimo majuscule, ultimo magno; aperturâ subcirculari, marginâ albo, labio externo crasso, columellâ crassâ, cuneatâ, rimâ anticâ magnâ, rotundâ.*

THE SIMILAR REGISTOMA. Shell high, rather ventricose, fulvous, polished, rather pyramidal, spire obtuse; whorls seven, upper rather short, slowly increasing, convex, penultimate rather large; aperture rather circular, margin white, outer lip thick, columella thick, cornered, anterior notch large, rounded.

GRAY. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., Registoma, f. 6.

Hab. Isl. Luzon, Philippines.

If there be any tangible character besides the white lip distinguishing this species from the preceding, it will be found in the last two whorls being disproportionately ventricose, and the spire being, in consequence, more nearly pyramidal in form.

Species 45. (Mus. Sowerby.)

REGISTOMA PELLUCIDUM. *Reg. testâ angustâ subglobosâ, subpellucidâ, fulvâ, politâ; anfractibus quinque, tribus superioribus brevissimis, dorso retrorsis, penultimo brevi, subretrorsa, ultimo obliquâ elevato, subgloboso, versus aperturam obliquè giboso, medio paulò planulato; aperturâ parvâ, marginâ albo, columellâ angustâ, rimâ linearâ.*

THE PELLUCID REGISTOMA. Shell narrowly subglobose, rather pellucid, fulvous, polished; whorls five, three upper very short, turned over the back, last but one short, rather turned backwards, last obliquely raised, somewhat globose, obliquely gibbous towards the aperture, middle a little flattened; aperture small, margin white, columella narrow, notch linear.

SOWERBY. Adams in Thes. Conch. *Pupinidae*, Pl. II., Registoma, f. 10, 11.

Hab. Isl. Zebu, Philippines.

Species 46. (Mus. Sowerby.)

REGISTOMA COMPLANATUM. *Reg. testâ fulvâ, vel fuscâ, angustâ, subcylindricâ, altâ, politâ, spirâ obtusâ; anfractibus quatuor, duobus superioribus brevibus, rotundis, duobus inferioribus altis, cylindratis; aperturâ simplici, obliquè productâ, rimâ antice linearâ.*

THE FLATTENED REGISTOMA. Shell fulvous, or brown, narrow, rather cylindrical, high, polished, spire obtuse; whorls four, upper two short, round, lower two high, cylindrical; aperture simple, obliquely produced, anterior notch linear.

PEASE. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., Registoma, f. 14, 15.

Hab. Kingsmill Group, Pacific.

A narrower and smaller shell than *Registoma pellucidum*.

Species 47. (Mus. Sowerby.)

REGISTOMA BRAZIERI. *Reg. testâ fulvâ, politâ, altâ, angustâ, media subventricosâ; apice obtuso; anfractibus quinque tribus, superioribus brevibus, penultimo inflato, ultimo majuscule, obliquâ, anticè subattenuato; aperturâ obliquè productâ, parvâ, circulari, rimâ aperta.*

BRAZIER'S REGISTOMA. Shell fulvous, polished, high, narrow, rather ventricose in the middle; apex obtuse; whorls five, three upper short, penultimate inflated, last rather large, oblique, anteriorly a little attenuated; aperture obliquely produced, small, circular, notch open.

CRASSE. Journ. de Conch. No. XIII.

Hab. Erromanga in the Pacific.



cataulus



48



49



50



51



52



53.



54



55



56



57

PUPINIDÆ.

PLATE VI.

Species 48. (Mus. Hanley.)

CATAULUS NIETERI. *Cat. testâ fusiformi, pallidè fulvâ, vel fuscâ, fuscoviridi, striatâ, spirâ altâ, pyramidatâ; anfractibus septem, superioribus lentiâ crescentibus, penultimo et ultimo majusculis, paulò inflatis, ultimo ad umbilicum latè carinato; aperturâ subproductâ, labio externo duplicito, margine externo subalato.*

NIEITER'S CATAULUS. Shell fusiform, pale fulvous, or brown, striped with brownish-green, spire raised, pyramidal; whorls seven, upper slowly increasing, penultimate and last rather large, a little inflated, last broadly keeled at the umbilicus; aperture somewhat produced, outer lip duplicate, outer margin slightly winged.

HANLEY. Indian Shells.

Hab. —? India.

Species 49. (Mus. —? Copied.)

CATAULUS TORTUOSUS. *Cat. testâ altâ, fusiformi; anfractibus septem, rotundis, inflatis, ultimo infra carinato, ad aperturam laxato; aperturâ distanti, obliquâ productâ, margine integro reflexo.*

THE TORTUOUS CATAULUS. Shell white, fusiform; whorls seven, rounded, lower inflated, last keeled below, loosened at the aperture; aperture distant, obliquely produced, margin entire, reflected.

GRAY. —? Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., Cataulus, f. 1.

Hab. Nicobar Island.

Species 50. (Mus. —? Copied.)

CATAULUS CALCADENSIS. *Cat. testâ fuscâ, altâ, subcylindricâ, obliquâ striatâ; anfractibus septem, convexis, suturâ profundâ; ultimo anfractu latè carinato; aperturâ disjunctâ, perpendiculariter subovatâ, anticè rostratâ, rimâ anticâ maximâ, labio externo duplicito.*

THE CALCADIAN CATAULUS. Shell brown, high, subcylindrical, oblique, striated, whorls seven, convex, suture deep; last whorl with a wide keel, aperture disjoined, perpendicularly rather ovate, anteriorly beaked, anterior notch very large, outer lip double.

BEDDOME. Hanley, Indian Shells.

Hab. Calcadia, India.

Species 51. (Mus. Brit.)

CATAULUS DUPLICATUS. *Cat. testâ fuscâ, subfuscâ, subpyramidalâ, robustâ, media et infra subinflatâ; anfractibus octo, superioribus brevibus, attenuatis, ultimis tribus altis, inflatis; umbilico magno, carinâ crassâ; aperturâ rotundâ, aurantid.*

THE DUPLICATE CATAULUS. Shell reddish-brown, rather pyramidal, robust, rather inflated in and below the middle; whorls eight, upper short, attenuated, last three high, inflated; umbilicus large, keel thick; aperture round, orange.

PFEIFFER. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., Cataulus, f. 2.

Hab. Ceylon.

Species 52. (Mus. Brit.)

CATAULUS CUMINGII. *Cat. testâ fuscâ, solidâ, subfuscâ, angulatum rugatâ; spirâ acuminatâ, infra medium inflatâ, umbilico majuscenso, carinâ prominenti; aperturâ subrotundâ, margine albo, labio externo late, leviter duplicito, rimâ anticâ maximâ.*

CUMING'S CATAULUS. Shell brown, solid, rather fusiform, angularly wrinkled; spire acuminate, inflated below the middle, umbilicus rather large, keel prominent; aperture rather round, margin white, outer lip broad, slightly double, anterior notch very large.

PFEIFFER. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., Cataulus, f. 3.

Hab. Ceylon.

PUPINIDÆ.—PLATE VI.

Species 53. (Mus. Hanley.)

CATAULUS BLANFORDI. *Cat. testâ fuscâ-rubescenti, pyramidatâ, altâ, superè attenuatâ; anfractibus novem, tribus inferioribus subinflatâs, convexis; umbilico angustiâsculo, carinâ crassâ; aperturâ subovatâ, margine aurantio, lato, convexo, rimâ antice maximâ.*

BLANFORD'S CATAULUS. Shell red-brown, pyramidal, high, attenuated above; whorls nine, three lower rather inflated, rather convex; umbilicus rather narrow, keel thick; aperture rather ovate, margin orange, broad, convex, anterior notch very large.

DORRIE. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., Cataulus, f. 8.

Hab. Kandy, Ceylon.

Species 54. (Mus. Sowb.)

CATAULUS THWAITESII. *Cat. testâ fusco-rubescenti, fusiformi, robustâ, breviâsculâ; anfractibus septem, mediis inflatis, ultimo infrâ ante carinam contracto, umbilico parvo; aperturâ subovatâ, margine lato, duplicata, albo.*

THWAITES'S CATAULUS. Shell reddish-brown, fusiform, robust, rather short; whorls seven, middle inflated, last below contracted before the keel; umbilicus small; aperture rather oval, margin broad, doubled, white.

PFEIFFER. Adams, Sowb. Thes. *Pupinidae*, Pl. II., Cataulus, f. 6.

Hab. Ceylon.

Species 55. (Mus. Sowb.)

CATAULUS RECURVATUS. *Cat. testâ latâ pyramidatâ, stramineâ, ventricosâ, apice acuminato, rubro; anfractibus septem, rotundis, equaliter crescentibus, ultimo ante carinam contracto, umbilico angusto, carinâ tenui; aperturâ majusculâ, margine lato, duplicata, infrâ ad rimam recurvato, rimâ maximâ.*

THE RE-CURVED CATAULUS. Shell broadly pyramidal, straw-coloured, ventricose, apex acuminate, red; whorls seven, rounded, equally increased, last contracted before the keel, umbilicus nar-

row, keel thin; aperture rather large, margin broad, doubled, bent backwards below the notch, notch very large.

A. ADAMS. Sowb. Thes. Conch. *Pupinidae*, Pl. II., Cataulus, f. 16.

Hab. Ceylon.

The duplicate edge of the aperture, where interrupted by the notch, terminates at each side in a prominent point.

Species 56. (Mus. Hanley.)

CATAULUS EURYPTREMA. *Cat. testâ rubrâ, ventricosâ, pyramidatâ, versus apicem attenuatâ, acuminatâ, medio et infrâ inflatâ; anfractibus novem, duobus ultimis latis, inflatis, ultimo ad carinam contracto, umbilico lato, carinâ acutâ; aperturâ perpendiculariter oblongâ, marginibus externo et antico latissimis, labio externo leviter duplice, rimâ maximâ.*

THE BROAD-EDGED CATAULUS. Shell red, ventricose, pyramidal, attenuated towards the apex, acuminate, inflated in and below the middle; whorls nine, two last broad, inflated, last contracted at the keel, umbilicus broad, keel sharp; aperture perpendicularly oblong, outer and lower margins very wide; outer lip slightly double, notch very large.

PFEIFFER. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., Catanlus, f. 17.

Hab. Ceylon.

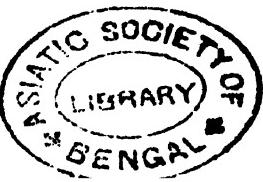
Species 57. (Mus. Sowb.)

CATAULUS LAYARDI. *Cat. testâ breviâsculâ, flavidâ, pyramidatâ, spirâ acuminatâ; anfractibus convexis, umbilico lato, carinâ acutâ; aperturâ albâ, margine utrinque duplicata, rimâ parvâ, rotundâ.*

LAYARD'S CATAULUS. Shell rather short, yellow, pyramidal, spire acuminate; whorls convex, umbilicus broad, keel sharp; aperture white, margin doubled on each side, notch small, round.

GRAY. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., Cataulus, f. 7.

Hab. Ceylon.



Catalulus.



59.



58a



60.



58b



61.



62.



63.



64.



65.



66.

PUPINIDÆ.

PLATE VII.

(CATAULUS.)

Species 58. (Fig. a, b, Mus. Brit.)

CATAULUS MARGINATUS. *Cat. testâ angustâ, pyramidatâ, albâ vel fuscâ; anfractibus octo, lètè crescentibns, undulatim rugatis, ultimo infrâ contracto, acutè carinato, intus carinam umbilicato; aperturâ subrotundâ, rimâ parvâ, labio externo duplicato, infrâ ad rimam acutè rostratâ.*

THE BORDERED CATAULUS. Shell narrowly pyramidal, white or brown; whorls eight, slowly increased, with wavy wrinkles, the last contracted below, acutely keeled, widely umbilicated within the keel; aperture rather rounded, notch small, outer lip duplicated, sharply beaked below at the notch.

PFEIFFER. Mon. Heliceorum.

Hab. Ceylon.

Species 59. (Mus. Sowerby.)

CATAULUS AUSTENIANUS. *Cat. testâ latè pyramidatâ, breviuscûlâ, ventricosâ; fuscо-rubescente; anfractibus octo, convexis; ultimo carinâ crassâ et umbilico magno terminante; aperturâ magnâ, rotundâ, margine aurantio, incrassato, lato, convexo; rimâ magnâ, rotundâ.*

AUSTEN'S CATAULUS. Shell broadly pyramidal, rather short, ventricose; reddish brown; whorls eight, convex, last ending with a thick keel and large umbilicus; aperture large, round, margin orange, thickened, convex, broad; notch large, rounded.

BENSON. Ann. Nat. Hist. Ser. 2.

Hab. Ceylon.

Species 60. (Mus. Hanley).

CATAULUS PYRAMIDATUS. *Cat. testâ latè pyramidatâ, ventricosâ, fuscо-rubescente, tenuiter striatâ; anfractibus septem, ultimo convexo, carinâ crassâ et*

umbilico lato terminante; aperturâ rotundâ, margine albo, lato, planulato, rimâ obliquâ, maximâ.

THE PYRAMIDAL CATAULUS. Shell broadly pyramidal, ventricose, reddish brown, finely striated; whorls seven, the last convex, ending in a thick keel and broad umbilicus; aperture rounded, margin white, broad, flattened, notch oblique, very large.

PFEIFFER. Proc. Zool. Soc. 1852.

Hab. Ceylon.

Species 61. (Mus. Hanley.)

CATAULUS HEMASTOMUS. *Cat. testâ latè pyramidatâ, obliquè striatâ, fulvâ; apice acuminato; anfractibus octo, convexis, ultimo carinato, supra carinam contracto; aperturâ maximâ, rotundâ; margine latissimo, convezo, viridè rubro, ad suturam elevato, infrâ rotundè rostrato, rimâ magnâ, rotundâ.*

THE RED-MOUTHED CATAULUS. Shell broadly pyramidal, obliquely striated, fulvous; apex acuminate; whorls eight, convex, the last keeled, contracted above the keel; aperture very large, rounded; margin very broad, convex, bright red, raised at the suture, roundly beaked below, notch large, round.

PFEIFFER. Proc. Zool. Soc. 1852.

Hab. Ceylon.

More elegantly fusiform and acuminated than the two preceding.

Species 62. (Mus. Sowerby.)

CATAULUS TEMPLEMANI. *Cat. testâ subfusiformi, angustâ, fuscо-rubescente; anfractibus octo, medianis subventricosis, ultimo infrâ contracto, umbilico angustiusculo; aperturâ subovatâ, margine viridè aurantio, angusto, infrâ in rostrum obtusissimum producto; rimâ purvâ.*

PUPINIDÆ.—PLATE VII.

TEMPLEMAN'S CATAULUS. Shell rather fusiform, narrow, reddish brown; whorls eight, middle ones rather ventricose, last contracted below, with a rather narrow umbilicus; aperture rather ovate, margin bright red, narrow, produced below in a very obtuse beak; notch small.

PFEIFFER. Adams. Sowb. Thes. Conch. *Pupinidæ*, *Cataulus*, Fig. 62.
Hab. Ceylon.

Species 63. (Mus. Hanley.)

CATAULUS LEUCOCHIELUS. *Cat. testâ pyramidâ, striatâ, flavidâ; anfractibus octo, medianis subventricosis, apicalibus parvis, attenuatis, ultimo supra carinam validè contracto; carinâ acutâ; umbilico magno; aperturâ subovatâ, margine expanso, albo, reflexo, recurvo, ad suturam elevato, ad rimam producto; rimâ maximâ.*

THE WHITE-EDGED CATAULUS. Shell pyramidal, striated, yellow; whorls eight, middle subventricose, apical small, attenuated, last strongly contracted above the keel; keel sharp; umbilicus large; aperture rather ovate, margin expanded, white, reflected, bent backwards, raised at the suture, produced at the notch; notch very large.

A. ADAMS. Sowb. Thes. Conch. *Pupinidæ*, *Cataulus*, Fig. 62.
Hab. Ceylon.

Species 64. (Mus. Hanley.)

CATAULUS DECORUS. *Cat. testâ subfusiformi, levigatâ, rubro-fuscâ; anfractibus septem, subelevatis, convexis, ultimo supra carinam validissimè coarctato; carinâ magnâ, acutâ; aperturâ parvâ, subovatâ, margine lato, expanso, ad suturam elevato, subalato, infrâ rostrato, rimâ magnâ.*

THE DECOROUS CATAULUS. Shell subfusiform, smooth,

reddish-brown; whorls seven, rather elevated, convex, last very strongly contracted above the keel; keel large, sharp; aperture small, subovate, margin broad, expanded, raised and somewhat winged at the suture, beaked below, notch large.

BENSON. Adams. Sowb. Thes. Conch. *Pupinidæ*, *Cataulus*, Fig. 13.
Hab. Ceylon.

Species 65. (Mus. Hanley.)

CATAULUS AUREUS. *Cat. testâ altâ, subfusiformi, aurantiâ, tenuiter striatâ; anfractibus septem, altis, tribus vel quatuor apicalibus roseis, attenuatis, medianis subventricosis, ultimo elevato; apertura mediocri; margine duplikato, extus expanso, infra validè rostrato; rimâ maximâ.*

THE GOLDEN CATAULUS. Shell raised, subfusiform, orange, finely striated; whorls seven, elevated, three or four apical rosy, attenuated; middle rather ventricose, last raised; aperture middlesized; margin double, expanded on the outside, strongly beaked below; notch very large.

HANLEY. Indian Shells, Pl. 106, Fig. 9.
Hab. India.

(ARINIA.)

Species 66. (Mus. — ? Copied.)

ARINIA MINOR. *Ari. testâ parvâ, pupaformi, fuscâ; anfractibus quatuor, brevibus, rotundis, superioribus elevato-striatis; aperturâ rotundâ, margine albo, integro.*

THE SMALL ARINIA. Shell small, pupa-shaped, brown; whorls four, short, rounded, upper ridge striated; aperture round, margin white, entire.

SOWERBY (Cyclostoma). Adams. Sowb. Thes. Conch. *Pupinidæ*, *Arinia*, Fig. 1.
Hab. Isl. of Panay, Philippines.



Pollicularia



68.



69.



72.



74.



76.

PUPINIDÆ.

PLATE VIII.

(*POLLICARIA OR HYBOCISTIS.*)

Species 67. (Mus. Sowerby.)

POLLICARIA MOUHOTI. *Pol. testâ solidâ, ventricosâ, brevi, fusco-purpureâ, pupoformi; anfractibus quinque, rapidè crescentibus, ultimo magno, alto, vix uno latere gibboso; umbilico parvo, obliquo; aperturâ magnâ, subrotundâ, posticè subacuminatâ; margine aurantio, rotundo.*

MORHOT'S *POLLICARIA*. Shell solid, ventricose, short, brown-purple, pupa-shaped; whorls five, rapidly increased, the last large, elevated, a very little gibbous on one side; umbilicus small, oblique; aperture large, rather round, slightly acuminate posteriorly; margin orange, round.

PFEIFFER. Proc. Zool. Soc. 1862, p. 276.

Hab. Camboja, Lao Mountains.

Species 68. (Mus. Brit.)

POLLICARIA GRAVIDA. *Pol. testû solidâ, ventricosâ, breviter pupoformi, fulvâ; subtortuâ; apice obtuso, anfractibus quinque, tribus apicalibus brevibus, rapidè crescentibus, penultimo ventricoso, uno latere gibboso, ultimo magno, obliquo, uno latere gibboso; infrâ angustato, rimato, umbilicato; aperturâ subrotundâ, margine duplicata, margine externo supra suturam elevata, subtubuloso, margine interno anterî ultra externum extenso.*

THE HEAVY *POLLICARIA*. Shell solid, very ventricose, shortly pupa-form, fulvous, a little tortuous; apex obtuse, whorls five, three apical short, rapidly increased, penultimate ventricose, gibbous on one side; last large, oblique, gibbous on one side, narrow below, notched, umbilicated; aperture rather rounded, margin duplicated, outer margin raised above the suture, a little tubular; inner margin anteriorly extended beyond the outer.

BENSON. Adams. Sowb. Thes. Conch. *Pupinidæ*, *Pollicaria*, Fig. 5.

Pollicaria pollex, Gould.

Hab. Moulmein, India.

Species 69. (Mus. Brit.)

POLLICARIA MYERSI. *Pol. testâ magnâ, inflatâ, fulvâ, fusiformi; apice obtuso; anfractibus quinque, apicalibus tribus parvis, penultimo magno, ultimo*

marimo; infrâ angustè umbilicata; apertura magnâ, supernâ subacuminata, margine duplicata.

MYERS' *POLLICARIA*. Shell large, inflated, fulvous, fusiform; apex obtuse; whorls five, three apical small, last but one large, last very large; narrowly umbilicated below; aperture large, a little acuminated above, margin doubled.

HAINES. Adams. Sowb. Thes. Conch. *Pupinidæ*, *Pollicaria*, Fig. 11.

Hab. Siam.

(*MEGALOMASTOMA.*)

Species 70. (Mus. Brit.)

MEGALOMASTOMA LOWEI. *Meg. testâ breviusculâ, pyramidatâ, purpureo-fusca; apice acuminato; anfractibus septem, gradatim crescentibus, convexiusculis; ultimo ad umbilicum carinato; aperturâ rotundâ, margine duplicata, expansâ, intus aurantia, extus albâ, planulata.*

LOWE'S *MEGALOMASTOMA*. Shell rather short, pyramidal, purple-brown; apex acuminate; whorls seven, gradually increased, rather convex, last keeled at the umbilicus; aperture round, margin duplicate, expanded, orange within, white without, rather flattened.

ADAMS and SOWERBY. Thes. Conch. *Pupinidæ*, *Megalomastoma*.

Hab. Labuan.

Species 71. (Mus. Sowerby.)

MEGALOMASTOMA TORTUM. *Meg. testâ solidâ, ventricosa, pupaformi; anfractibus sex, rotundis, tribus apicalibus brevibus, rotundis, pallide fulvis, ultimo purpureo-nigrescente, quam penultimo angustiori; aperturâ circulari, margine reflexo, labio interno angusto, externo suprà et infrâ alato.*

THE TWISTED *MEGALOMASTOMA*. Shell solid, ventricose, pupa-shaped; whorls six, rounded, three apical short, rounded, pale fulvous, last blackish-purple, narrower than the penultimate; aperture circular, margin reflected, inner lip narrow, outer winged above and below.

WOOD. Suppl. Pl. 6, p. 23.

Cyclostoma auriculatum, D'Orb.

Cyclostoma alutaceum, Menke.

Cyclostoma apertum, Poey.

PUPINIDÆ.—PLATE VIII.

Cyclostoma digitale. Gundlach.
Cyclostoma Taylorianum. Pfeiffer.
Cyclostoma idolum. Ferrussac.
Cyclostoma bicolor. Goulding.
Cyclostoma seminudum. Poey.
Hab. Cuba.

Species 72. (Mus. Brit.)

MEGALOMASTOMA SIMULACRUM. *Meg. testâ elatâ, pyramidâ, rubro-fuscâ, tenuiter striatâ; anfractibus decem, convexis; aperturâ circulari, margine duplice, latere interno angustè elevato, externo latè reflexo, expanso, planulato, albo; apud anfractum ultimum angustato, sinuatum plicato.*

THE IMAGE MEGALOMASTOMA. Shell elevated, pyramidal, reddish-brown, finely striated; whorls ten, convex; aperture circular, margin duplicate, on the inner side narrowly elevated, on the outer broadly reflected, expanded, flattened, white; narrowed and sinuously plaited against the last whorl.

MORELET. Adams. Sowb. Thes. Megalomastoma, Fig. 3, 4.

Hab. Guatemala.

Species 73. (Mus. Sowerby.)

MEGALOMASTOMA GUATEMALENSE. *Meg. testâ elatâ, pyramidâ, angustâ, turritâ, fuscâ; anfractibus rotundis, gradatim crescentibus, ultimo angustâ umbilicato, carinato; aperturâ subrotundâ, margine reflexo, angusto, albo.*

THE GUATEMALA MEGALOMASTOMA. Shell elevated, pyramidal, narrow, turreted, brown; whorls round, gradually increased, last narrowly umbilicated, carinated; aperture rather rounded, margin reflected, narrow, white.

PFEIFFER. Adams. Sowb. Thes. Megalomastoma, Fig. 6.

Hab. Guatemala.

Species 74. (Mus. Sowerby.)

MEGALOMASTOMA LEONINUM. *Meg. testâ brevi, levâ, pupiformi, fulvâ, solidâ, ventricosa; anfractibus quinque, ultimo magno, infrâ carinato et umbilicato; aperturâ magnâ, subcirculari, margine albo, angusto, reflexo, rotundo.*

THE LEONINE MEGALOMASTOMA. Shell short, smooth, pupa-shaped, fulvous, solid, ventricose; whorls

five, last large, keeled and umbilicated below; aperture large, subcircular, margin white, narrow, reflected, rounded.

PFEIFFER. Adams. Sowb. Thes. Conch. *Pupinidae* (Megal.) Fig. 7.
Hab. Cuba.

A shorter shell than *M. tortum*, with the margin of the aperture not winged.

Species 75. (Mus. Brit.)

MEGALOMASTOMA FUNICULATUM. *Meg. testâ angustâ, purpureo-fuscâ, pupaformi, altâ; anfractibus sex, rectiunculis, superioribus attenuatis; ultimo alto, rectilaterali, infrâ subcarinata et umbilicata; aperturâ floridâ, subauriformi, margine angustâ reflexo, rotundo, integro.*

THE CHIMNEY-SHAPED MEGALOMASTOMA. Shell narrow, purple-brown, pupa-shaped, high; whorls six, rather straight, upper attenuated; last high, straight-sided, slightly keeled and umbilicated; aperture yellowish, rather auriform, margin narrowly reflected, rounded, entire.

BENSON. Adams. Sowb. Thes. Conch. Megalomastoma, Fig. 8.

Hab. Darjiling, India.

Species 76. (Mus. Brit.)

MEGALOMASTOMA BITUBERCULATUM. *Meg. testâ solidâ, altâ, ventricosâ, pupaformi; anfractibus sex, convexis, superioribus pallidis, inferioribus purpureis; suturâ profundissimâ; aperturâ circulari, margine latè reflexo; latere externo foliatim duplicato, apud anfractum ultimum rotundè bialato, post aperturam canaliculato.*

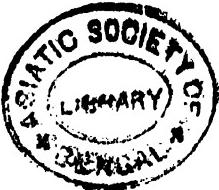
THE BITUBERCULATED MEGALOMASTOMA. Shell solid, high, ventricose, pupa-shaped; whorls six, convex, upper pale, lower purple; suture very deep; aperture circular, margin broadly reflected, outer side doubly foliated, roundly two-winged, with a canal behind the aperture.

SOWERBY. Adams. Sowb. Thes. Megalomastoma, Fig. 10.

Cyclostoma solenatum. Poey.

Hab. Cuba.

A bolder and more cylindrical shell than *Megalomastoma tortum*, with the suture on the margin of the lip at the interrupted part rounded and conspicuous.



Megalomastoma.



78.



77.



79.



80.



81.



82.



83.



84.



85.



86.

PUPINIDÆ.

PLATE IX.

(MEGALOMASTOMA.)

Species 77. (Mus. Sowerby.)

MEGALOMASTOMA D'ORBIGNYI. *Meg. testâ oblongo-subcylindricâ, levigatâ, omnino pallidè aurantiâ vel fuscâ-aurantiâ, anfractibus inferioribus fasciâ fuso-latiâ pectâ; anfractibus sex, primis rotundis, brevibus; medianis convexiâsculis, allis; ultimo altissimo, infrâ propè aperturam carinato, angustè umbilicato; aperturâ anticè subproductâ, circulari, margine integro, rotundo.*

D'ORBIGNY'S MEGALOMASTOMA. Shell oblong-subcylindrical, smooth, all over pale orange or brown orange, with the lower whorls painted with a broad brown band; whorls six, the first rounded, short; middle rather convex, high; last very high, keeled below near the aperture, narrowly umbilicated; aperture anteriorly rather produced, circular, margin entire, rounded.

PFEIFFER. Adams. Sowb. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 12, 13.

Hab. Haïti, Peru.

Species 78. (Mus. Sowb.)

MEGALOMASTOMA SUSPENSUM. *Meg. testâ angustè pyramidalâ, obliquè striatâ, fumoso-fused; anfractibus novem, gradatim crescentibus; ultimo alto, infrâ umbilicato et carinato; aperturâ descendente, subovatâ, margine angusto, albo, planulato, ad suturam acuminato.*

THE SUSPENDED MEGALOMASTOMA. Shell narrowly pyramidal, obliquely striated, smoky-brown; whorls nine, gradually increased; last high, umbilicated and keeled below; aperture descending, rather ovate, margin narrow, white, flattened, acuminate at the suture.

GULDING. Adams. Sowb. Thes. *Pupinidae*, Megalomastoma, Fig. 14.

Cyclostoma Antillarum. Sowerby.

Hab. Isl. St. Thomas, Antilles.

Species 79. (Mus. —? Copied.)

MEGALOMASTOMA VERRECOsum. *Meg. testâ brevi, subpyramidalâ, obscurè fulvâ, minutè nodulosâ; anfractibus sex, gradatim crescentibus, ultimo ante*

aperturam angustissimâ umbilicato; aperturâ subrotundâ, margine albo, convexo.

THE WAITED MEGALOMASTOMA. Shell short, rather pyramidal, dull brown, minutely nodose, whorls six, gradually increased, last very narrowly umbilicated before the aperture; aperture rather round, margin white, convex.

SHUTTLEWORTH. Adams. Sowb. Thes. *Pupinidae*, Megalomastoma, Fig. 15.

Hab. Porto Rico.

Species 80. (Mus. Brit.)

MEGALOMASTOMA COMPLANATUM. *Meg. testâ solidâ, pupaformâ, ventricosâ, fuscâ-purpureâ, ad suturam albo-lineatâ; anfractibus quinque, penultimâ maxima, ultimo subcompressâ; umbilico angustissimo; aperturâ magnâ, circulâri; margine albo, crasso, apud anfractum ultimum partim interrupto.*

THE FLATTENED MEGALOMASTOMA. Shell solid, pupa-shaped, ventricose, brown-purple, with a white line at the suture; whorls five, penultimate very large; last a little compressed; umbilicus very narrow; aperture large, circular; margin white, thick, partly interrupted against the body-whorl.

PFEIFFER. Adams. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 16.

Hab. Cuba.

The last whorl is a little flattened in front.

Species 81. (Mus. Sowerby.)

MEGALOMASTOMA CROCEUM. *Meg. testâ ovo-acuminata, laci, aurantiâ, vel pallidè faled, anfractibus inferioribus fuscofasciatis; anfractibus septem, supernè angustioribus, infrâ angustè umbilicata; aperturâ ovalâ, posticè angustiâscula, margine angusto, duplicito.*

THE YELLOW MEGALOMASTOMA. Shell ovo-acuminated, smooth, orange, or pale fulvous, with brown bands on the lower whorls; whorls seven, rather narrow above; below narrowly umbilicated; aperture ovate, posteriorly rather narrow, margin narrow, doubled.

SOWERBY. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 7.

PUPINIDÆ.—PLATE IX.

Cyclostoma bifasciatum. Sowerby

Cyclostoma Gouldianum. Petri.

Hab. Mauritius. (Var. *fasciatum*.) Gnayaquil.

Species 82. (Mus. Sowerby.)

MEGALOMASTOMA MANI. *Meg. testū subpyramidalā, aureo-fulvā, tenuiter striatā, apice acuminato; anfractibus septem, superioribus quinque brevibus, rotundis, penultimo magno, ultimo magno, infrā umbilicato; aperturā rotundā, margine crasso, rotuō, suprā infrāque prope anfractum ultimum paulò expanso.*

MAN'S MEGALOMASTOMA. Shell rather pyramidal, golden-fulvous, finely striated, apex acuminate; whorls seven, upper five short, round, penultimate large, last large, umbilicated below; aperture round, margin thick, rounded, a little expanded above and below near the last whorl.

POEY. Adams. Sowb. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 18.

Megalomastoma procerum (var.). Poey.

Hab. Cuba.

This species is not so cylindrical as *Megalomastoma tortum*, but tapers towards the apex.

Species 83. (Mus. Hanley.)

MEGALOMASTOMA ANASTOMA. *Meg. testū breviter pyramidalā, acuminatā, purpureo-fuscā; anfractibus sex, rapidē crescentibus; aperturā magnā, circulari; margine albo, expanso, apud anfractum ultimum interrupto.*

THE WRY-MOUTHED MEGALOMASTOMA. Shell shortly pyramidal, acuminate, purple-brown; whorls six, rapidly increased; aperture large, circular; margin white, expanded, interrupted against the last whorl.

BENSON. Adams. Sowb. Thes. *Pupinidae*, Megalomastoma, Fig. 20.

Hab. India.

The peritreme is white and more broadly expanded than in *M. Lowei*.

Species 84. (Mus. —? Copied.)

MEGALOMASTOMA GULDINGIANUM. *Meg. testū minutā, brevi, pupaeformi, anfractibus superioribus albī,*

apice obtuso; anfractibus quinque, brevibus, rotundis, penultimo inflato; ultimo intēnsē purpureo; vix contracto, umbilicato; aperturā subcirculari, margine angusto, albo, rotundo.

GULDING'S MEGALOMASTOMA. Shell minute, short, pupa-shaped, upper whorls white, apex obtuse; whorls five, short, round, last but one inflated; last deep purple, a very little contracted, umbilicated; aperture nearly circular, margin narrow, white, rounded.

PFEIFFER. Adams. Sowb. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 21.

Hab. West Indies.

This minute shell is like a miniature representation of *M. tortum*.

Species 85. (Mus. —? Copied.)

MEGALOMASTOMA PAUPERCULUM. *Meg. testū minutā, pupaeformi, altiusculā, anfractibus superioribus albī, convexis; spirā acuminatā, medio convexa; anfractibus sex, convexiusculis, penultimo inflato, ultimo subcontracto, umbilicato, intēnsē purpureo; aperturā circulari, margine albo, duplicito.*

THE POOR LITTLE MEGALOMASTOMA. Shell minute, pupa-shaped, rather high, with the upper whorls white, convex; spire acuminate, middle convex; whorls six, rather convex, last but one inflated, last rather contracted, umbilicated, deep purple; aperture circular, margin white, double.

PFEIFFER. Adams. Sowb. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 22.

Hab. West Indies.

Resembling *M. Guildingianum* in size and general appearance, but more acuminate, and with the rim doubled.

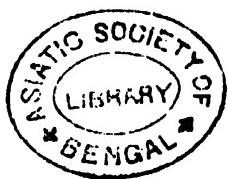
Species 86. (Mus. Sowerby.)

MEGALOMASTOMA ALTUM. *Meg. testū angustē pyramidalā, purpureo-fuscā, levigatā; anfractibus septem convexis, ultimo alto, umbilicato; aperturā subcirculari, margine duplicito, albo.*

THE HIGH MEGALOMASTOMA. Shell narrowly pyramidal, purple-brown, smooth; whorls seven, convex, last high, umbilicated; aperture rather circular, margin doubled, white.

SOWERBY. Adams. Thes. Conch. *Pupinidae*.

Hab. Isl. Negroes.



Megalema stoma



88.



87.



89.



91.



90.



92.

Raphanulus.



93.



94.



95.



96.



PUPINIDÆ.

PLATE X.

Species 87. (Mus. Brit.)

MEGALOMASTOMA UNGULA. *Meg. testâ albâ, solidâ, pupariformi, anfractibus sex, concexis, suture profundi separatis, ultimo angustissimè umbilicato; aperturnâ anticè obliquâ productâ, bimarginatâ, margine interiorâ ultra exteriorem obliquè extenso.*

THE TALON MEGALOMASTOMA. Shell white, solid, pupa-shaped, whorls six, convex, separated by a deep suture; last very narrowly umbilicated; aperture anteriorly obliquely produced, with a double margin, interior margin extended obliquely beyond the outer.

POEY. Adams, Sowb. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 29.

Hab. Cuba.

The mouth is bordered by a kind of double rim, the inner rim being, as it were, pushed out obliquely in front, so as to overlap what would otherwise be the outer.

Species 88. (Mus. Brit.)

MEGALOMASTOMA SECTILABRUM. *Meg. testâ pyramidatâ, altâ, acuminatâ, pallidissimè fulvâ; anfractibus octo, levibus, convexiusculis, declivibus; ultimo infrâ unifasciato, tum angustissimè umbilicato; aperturâ subovatâ, margine duplicato, parte exteriori ad anfractum ultimum interruptâ, interiori integrâ.*

THE SLIT-LIPPED MEGALOMASTOMA. Shell pyramidal, raised, acuminate, very pale fulvous; whorls eight, smooth, convex, sloped; last single-banded, very narrowly umbilicated; aperture rather ovate, margin duplicated, the outer part being interrupted at the body whorl, the inner part entire.

GULDING. Adams, Sowb. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 24.

Hab. Tavoy, Birmah.

Species 89. (Mus. — ? Copied.)

MEGALOMASTOMA VENTRICOSUM. *Meg. testâ solidâ, ventricosâ, brevi, fusco-rubescens; anfractibus quinque, convexis, latis; penultimo inflato; ultimo purpurascens, infrâ subangustata, profunde umbilicato; aperturâ magna, levata; margine crasso, aurantio, rotundo, apud anfractum partim interrupta.*

THE VENTRICOS MEGALOMASTOMA. Shell solid, very ventricose, short, reddish-brown; whorls five, convex, broad; penultimate inflated; last rather purplish, a little narrowed below, deeply umbilicated; aperture large, round; margin thick, orange, round, partly interrupted at the last whorl.

D'ORBIGNY. Adams, Sowb. Thes. Conch. *Pupinidae*,

Megalomastoma, Fig. 25.

Hab. Cuba.

Much more short and ventricose than *Meg. tortum*.

Species 90. (Mus. Brit.)

MEGALOMASTOMA GUNDLACHI. *Meg. testâ brevi, pupariformi, aurantio-fusco; apice obtuso; anfractibus quinque, tribus superioribus rotundis, penultima magna, rectiunculo, ultimo altissimo, recto, infra carinato, umbilicato; aperturâ maxima, circulari, margine crasso, rotundo, apud anfractum ultimum semi-interrupto.*

GULDING'S MEGALOMASTOMA. Shell short, pupa-shaped, orange-brown; apex obtuse; whorls five, three upper rounded, penultimate large, rather straight, last very high, straight, keeled below, umbilicated; aperture very large, circular, margin thick, rounded, half interrupted against the last whorl.

PFEIFFER. Adams, Sowb. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 26.

Hab. Cuba.

Species 91. (Mus. Brit.)

MEGALOMASTOMA CYLINDRACEUM. *Meg. testâ altissimâ, cylindrica, aurantiâ (nonnunquam ultimo anfractu unifasciato), versus apicem attenuata; anfractibus octo, altis, rectis; aperturâ ovali, margine albo, angusto.*

THE CYLINDRICAL MEGALOMASTOMA. Shell very high, cylindrical, orange, sometimes with the last whorl single-banded, attenuated towards the apex; whorls eight, high, straight; aperture ovate, margin white, narrow.

CREMINTZ. Adams, Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 27.

Turbo flavidus. Wood.

Helix cocea. Gmelin.

Cyclotoma flava.

Hab. Porto Rico.

More elevated and cylindrical than *M. D'Orbignyi*.

Species 92. (Mus. Sowb.)

MEGALOMASTOMA SEROTINA. *Meg. testâ ovato-subpyramidalâ, ventricosa, levigata, subacuminata, fulvâ; anfractibus sex, convexiusculis, ultimo magno, infrâ carinato, angustè umbilicato, aperturâ subrotunda, anticè obliquâ productâ, margine crasso, duplice, parte interiore antice ultra exteriorem extenso.*

PUPINIDÆ.—PLATE X.

THE EVENING MEGALOMASTOMA. Shell ovate-subpyramidal, ventricose, smooth, rather acuminate, fulvous; whorls six, rather convex, last large, keeled below, narrowly umbilicated; aperture rather rounded, anteriorly obliquely produced, margin thick, double, inner part extended in front beyond the outer.

ADAMS. Sowb. Thes. Conch. *Pupinidae*, Megalomastoma, Fig. 28.

Hab. Cuba.

(*RAPHAULUS*.)

Species 93. (Mus. —? Copied.)

RAPHAULUS BOMBAZINUS. *Rap. testâ breviter pupaformis*, fuscousubtured, apice acuminate; *anfractibus septem*, quinque superioribus parvis, brevibus, pyramidalis, penultimo brevissimo, rotundè prominenti, ultimo magno, rectiusculo; *apertura magnâ*, rotundâ, margine lato, circulariter canaliculata; *tubâ rotundâ brevissimâ*.

THE BOMBAZINE RAPHAULUS. Shell shortly pupaform, golden-brown; apex acuminate, whorls seven, five upper small, short, pyramidal; penultimate rather short, roundly prominent, last large, rather straight; aperture large, round, margin broad, circularly channelled; tube round, very short.

PFEIFFER. Adams, Sowb. Thes. Conch. *Pupinidae*, *Raphaulus*, Fig. 3, 7.

Hab. India.

Species 94. (Mus. —? Copied.)

RAPHAULUS SIMILIS. *Rap. testâ brevissimâ pupaformi*, fuscousubtured; apice obtuso; *anfractibus quinque*, tribus superioribus brevissimis, penultimo brevi, inflato; ultimo ventricoso, alto, obliquo; *apertura magnâ*, rotundâ, margine lato, circulariter canaliculata; *tubâ rotundâ brevissimâ*.

THE SIMILAR RAPHAULUS. Shell very shortly pupa-shaped, golden brown; apex obtuse; whorls five, three upper very short, penultimate short, inflated, last ventricose, high, oblique; aperture large, rounded, margin broad, with a circular canal; tube rounded, very short.

SOWERBY.

Hab. —?

In the monograph of Pupinidae by Mr. Arthur Adams, this species is given as a second example of the preceding. It is, however, much shorter and more obtuse in the spire.

Species 95. (Mus. Hanley.)

RAPHAULUS CHRYNALIS. *Rap. testâ breviter pupaformi*, solidâ, purpureo-fuscâ; apice obtuso, an-

fractibus quinque, tribus superioribus brevibus, penultimo alto, rotundè prominenti; ultimo alto, obliquo; *apertura magnâ*, circulari, margine lato, circulariter canaliculata; *tubâ elongatâ*, perpendiculariter super anfractum ultimum decumbenti.

THE CHRYSALIS RAPHAULUS. Shell shortly pupa-shaped, solid, purple-brown; apex obtuse, whorls five, three upper short, last but one elevated, roundly prominent; last elevated, oblique; aperture large, circular, margin broad, with a circular channel, tube elongated, perpendicularly decumbent upon the last whorl.

PFEIFFER. Proc. Zool. Soc. 1852, p. 158.

Hab. Ava, Moulmein.

The tube runs up the side of the last whorl, nearly reaching the suture.

Species 96. (Mus. Brit.)

RAPHAULUS LORAINII. *Rap. testâ breviter pupaformi*, solidâ, purpureo-fuscâ, ultimo anfractu albo supra, ad suturam unifasciato; apice obtuso; *anfractibus quinque*, brevibus, penultimo rotundè prominenti, ultimo rectiusculo; *apertura magnâ*, circulari, margine albo, reflexo, rotundo; *tubâ brevisimâ*, extra marginem aperta.

LORAIN'S RAPHAULUS. Shell shortly pupa-shaped, solid, purple-brown, last whorl with a single white band above the suture; whorls five, short, last but one roundly prominent; last rather straight; aperture large, circular, margin white, reflected, rounded; tube very short, open beyond the margin.

PFEIFFER. Proc. Zool. Soc. 1852.

Hab. Pulo Penang.

Resembling *R. bombycinus* and *R. similis*, but with no groove round the margin of the aperture.

Species 97. (Fig. a, b, Mus. Hanley.)

RAPHAULUS BLANFORDI. *Rap. testâ brevissimâ*, ventricosa, fissa; apice sub-pyramidalis; *anfractibus quinque*, duabus apicalibus parvis, brevibus, penultimo inflato, ultimo brevi, subinflato; *apertura circulari*, margine crasso, albo; *tubâ retrorsum protractâ*, longè super suturam ad dorsum productâ.

BLANFORD'S RAPHAULUS. Shell very short, ventricose, fissa; apex sub-pyramidal; whorls five, two apical small, short, last but one inflated, last short, rather inflated; aperture circular, margin thick, white, tube bent backwards, produced to some length over the suture at the back.

BENSON. An. Nat. Hist. 1857, p. 201.

Hab. Near Darjiling, in Sikkim, Himalaya.

PUPINIDÆ.

	Plate.	Species.		Plate.	Spec.
Adamsii. Pu. <i>Sowerby</i>	IV.	33	fuscum. Re. <i>Gray</i> ..	V.	43
altum. M. <i>Sowerby</i>	IX.	86	grande. Re. <i>Gray</i> ..	V.	42
<i>alutaceum</i> . M. Menke.....	VIII.	71	grandis. Pu. <i>Forbes</i> ..	I.	4
ambigua. Ca. <i>Semper</i>	IV.	37	gravidæ. Po. <i>Benson</i> ..	VIII.	68
anastomata. M. <i>Benson</i>	IX.	83	Guatemalense. M. <i>Pfeiffer</i>	VIII.	73
Angasi. Pu. <i>Adams</i>	II.	14	Guildingianum. M. <i>Pfeiffer</i>	IX.	84
<i>apertum</i> . M. <i>Poey</i>	VIII.	71	Gundlachi. M. <i>Pfeiffer</i>	X.	90
artata. Pu. <i>Benson</i>	I.	3	hæmostomus. Cat. <i>Pfeiffer</i>	VII.	61
arula. Pu. <i>Benson</i>	I.	5	humilis. Pu. <i>Adams</i>	II.	16
aurea. Pu. <i>Hinds</i>	I.	10	<i>idolum</i> . M. <i>Ferrussac</i>	VIII.	71
aureus. Cat. <i>Hanley</i>	VII.	65	imbricifera. Pu. <i>Benson</i>	I.	7
<i>auriculatum</i> . M. D'Orbigny	VIII.	71	Keraudreni. Pu. <i>Viguer</i>	II.	12
aurita. Ca. <i>Zeigler</i>	IV.	36	Layardi. Cat. <i>Adams</i>	VI.	57
Austenianus. Cat. <i>Benson</i>	VII.	59	leucocheilus. Cat. <i>Adams</i>	VII.	63
bicanaliculata. Pu. <i>Sowerby</i>	II.	11	leoninum. M. <i>Pfeiffer</i>	VIII.	74
<i>bicolor</i> . M. Guilding	VIII.	71	Lorainii. Ra. <i>Pfeiffer</i>	X.	96
bilinguis. Pu. <i>Pfeiffer</i>	I.	1	Lowei. M. <i>Adams</i>	VIII.	70
bituberculatum. M. <i>Sowerby</i>	VIII.	76	lubrica. Ca. <i>Sowerby</i>	IV.	35
Blanfordi. Cat. <i>Dohrn</i>	VI.	53	Mani. M. <i>Poey</i>	IX.	82
Blanfordi. Pu. <i>Theobald</i>	I.	6	marginatus. Cat. <i>Pfeiffer</i>	VII.	58
Blanfordi. Ra. <i>Benson</i>	X.	97	meridionalis. Pu. <i>Pfeiffer</i>	I.	8
Bombeyana. Ra. <i>Pfeiffer</i>	X.	93	Mindoroensis. Pu. <i>Adams</i> and <i>Reeve</i>	III.	28
Borneensis. Pu. <i>Pfeiffer</i>	II.	19	minus. Ar. <i>Sowerby</i>	VII.	66
Brazierii. Re. <i>Crosse</i>	V.	47	mitis. Pu. <i>Adams</i>	III.	23
calcadensis. Cat. <i>Beddome</i>	VI.	50	Monhoti. Pu. <i>Pfeiffer</i>	II.	13
chrysalis. Ra. <i>Pfeiffer</i>	X.	95	Monhoti. Po. <i>Pfeiffer</i>	VIII.	67
complanatum. M. <i>Pfeiffer</i>	IX.	80	Mouliniana. Pu. <i>Fischer</i>	II.	15
complanatum. Re. <i>Pease</i>	V.	46	Myersii. Pu. <i>Haines</i>	VIII.	69
crocum. M. <i>Sowerby</i>	IX.	81	nicobarica. Pu. <i>Pfeiffer</i>	III.	26
Cumingiana. Re. <i>Pfeiffer</i>	V.	41	Nicteri. Cat. <i>Hanley</i>	VI.	48
Cumingii. Cat. <i>Pfeiffer</i>	VI.	52	ottonis. Pu. <i>Dohrn</i>	III.	25
cylindraceum. M. <i>Chemnitz</i>	X.	91	panpercalum. M. <i>Pfeiffer</i>	IX.	85
decorus. Cat. <i>Benson</i>	VII.	64	pellucidum. Re. <i>Gray</i>	V.	45
dificilis. Pu. <i>Semper</i>	IV.	32	Pfeifferi. Pu. <i>Dohrn</i>	III.	21
<i>Digitale</i> . M. Gundlach	VIII.	71	pineticola. Pu. <i>Cox</i>	IV.	31
D'Orbignyi. M. <i>Pfeiffer</i>	IX.	77	planiabris. Pu. <i>Pfeiffer</i>	I.	9
duplicatus. Cat. <i>Pfeiffer</i>	VI.	51	polita. Har. A. <i>Adams</i>	III.	29
euryptrema. Ca. <i>Pfeiffer</i>	VI.	56	<i>pocula</i> . M. <i>Poey</i>	IX.	82
exiguum. Re. <i>Sowerby</i>	V.	39	pyriformis. Pu. <i>Pfeiffer</i>	II.	20
funiculatum. M. <i>Benson</i>	VIII.	75	pyramidalatus. Cat. <i>Pfeiffer</i>	VII.	60

PUPINIDÆ.

	Plate.	Species.		Plate.	Spec.
recrufatus. Cat. <i>A. Adams</i>	VI.	55	<i>Taylorianum</i> . M. Pfeiffer	VIII.	71
rufa. Pu. <i>Pfeiffer</i>	III.	27	<i>Templemani</i> . Cat. <i>Pfeiffer</i>	VII.	62
sectilabrum. M. <i>Guilding</i>	X.	88	<i>Thompsoni</i> . Pu. <i>Forbes</i>	III.	22
seminudum. M. Poey	VIII.	71	<i>Thwaitesii</i> . Cat. <i>Pfeiffer</i>	VI.	54
serotina. M. <i>Adams</i>	X.	92	<i>tortum</i> . M. <i>Wood</i>	VIII.	71
simile. Re. <i>Gray</i>	V.	44	<i>tortuosus</i> . Cat. <i>Gray</i>	VI.	49
similis. Ra. <i>Sowerby</i>	X.	94	<i>ungula</i> . M. Poey	X.	87
simulacrum. M. <i>Morelet</i>	VIII.	72	<i>ventricosum</i> . M. <i>Gundlach</i> ...	X.	89
splendens. <i>Dohrn</i>	IV.	35	<i>ventricosa</i> . Pu. <i>Dohrn</i>	I.	2
Strangei. Pu. <i>Pfeiffer</i>	III.	24	<i>verrucosum</i> . M. <i>Shuttleworth</i>	IX.	79
superba. Pu. <i>Pfeiffer</i>	II.	17	<i>Vescoi</i> . Pu. <i>Morelet</i>	II.	18
suspensum. M. <i>Guilding</i>	IX.	78	<i>vitreum</i> . Re. <i>Sowerby</i>	V.	40
Swinhoei. Pu. <i>A. Adams</i>	IV.	30	<i>Wallacei</i> . Ca. <i>Pfeiffer</i>	IV.	38

MONOGRAPH
OF THE GENUS
GASTROCHENA.

“Contrivance intricate, expressed with ease
Where unassisted sight no beauty sees.”—*Couper*.





1a



2.



3.



4b



4.



5.



GASTROCHÆNA.

PLATE I.

Genus GASTROCHIÆNA. Lamarck.

MOLLUSCUM ACEPHALOPODUM, PERFORANS, TUBICOLUM.

Testa bivalvis, inaequilateralis, equivalvis, antice ad marginem ventraliem latè hincus, umbonibus anticè ferè terminalibus; cardo dentibus plerumque subinconspicuis; ligamentum externum; tuba nonnunquam ferè libera.

MOLLUSK ACEPHALOPODE, perforating, tube-inhabiting. Shell bivalve, inequilateral, equivalve, widely gaping in front at the ventral margin, umbones almost terminal in front; hinge for the most part with inconspicuous teeth; ligament external; tube sometimes nearly free.

The Gastrochæna for the most part live, like the Pholades, in hollows which they bore in limestone rocks, and which they line with a shelly tube ending in a narrow neck, like a bottle. But some of them, like the *Gastrochæna dubia*, make an almost independent tube, only attached by the neck or by one side to the shell or rock through which they have bored, or to which they are otherwise fixed. There is a specimen in the British Museum of *G. dubia* in which the substance bored through and slenderly lined is crystallized carbonate of lime. The British species is common to France and many other European coasts. The Indias, East and West, the Galapagos Islands, the Mauritius, South America, the Pacific Islands, produce many species, and a small number were described by the late M. Deshayes, when in London some years since, which had been collected by the late Mr. Cumming in the Philippines.

Species 1. (Fig. a, b, c. Mus. Brit.)

GASTROCHÆNA DUBIA. *Gas. testa tenui, elongatâ, obliquâ, tenuiter striatâ; hiatu ventrali mediocri, prope medium terminanti; cardine tenui, ferè edentulo.*

THE DOUBTFUL GASTROCHÆNA. Shell thin, elongated, oblique, finely striated; ventral hiatus moderate,

terminating near the middle; hinge thin, almost without teeth.

PENNANT. British Zoology.

Gastrochæna mediolina. Lamarck.

ROCELLARIA DUBIA. Adams.

Hab. British Mediterranean coasts.

The bottle-shaped tube which covers the valves and siphons of this species is composed, when free, of agglutinated sand and small pebbles; when enclosed, it forms a calcareous lining to the crypt.

Species 2. (Mus. Brit.)

GASTROCHÆNA PLICATILIS. *Gas. testa subcompressa, epidermide fuscâ indutâ, tortuosa, areâ posterior elevata, contuberculata, sulcato-rugata, ad terminalium truncata, areâ dorsali depresso, rectiunculâ, areâ medianâ posteriori in sulcum obliquum terminata; hiatu elongato.*

THE PLAITED GASTROCHÆNA. Shell sub-compressed, covered with a brown epidermis, tortuous, with the posterior area elevated, contuberculated, wrinkled with sulci, truncated at the end, dorsal area depressed, rather straight, middle area posteriorly terminating in an oblique groove; hiatus elongated.

DESHAYES. Proc. Zool. Soc. 1854, p. 329.

Hab. Isl. Zebu, Philippines.

The shell very much resembles *G. rostrata*, but the plaits on the posterior area are finer, and less deeply cut, and the dorsal area much less projecting.

Species 3. (Mus. Brit.)

GASTROCHÆNA BREVIS. *Gas. testa inflatâ, brevi, solidiunculâ, leviusculâ, anticè gibbosâ, hiatu valde arcuato, brevi.*

THE SHORT GASTROCHÆNA. Shell inflated, short, rather solid, rather smooth, gibbose anteriorly; hiatus strongly arched, short.

SOWERBY. Proc. Zool. Soc. 1834. 21.

Hab. — ?

GASTROCHÆNA.—PLATE I.

Species 4. (Mus. Brit.)

GASTROCHÆNA APERTISSIMA. *Gas. testâ elongatâ, sub-compressâ; tenuiter striatâ; latere antico cuneato; latere postico rectiusculo, ad terminum rotundè subacuminato; hiatu lato et elongato, ferè ad terminum posticum extenso.*

THE WIDE OPEN GASTROCHÆNA. Shell elongated, rather compressed, finely striated; anterior side cuneated; posterior side rather straight, roundly subacuminate; hiatus broad and elongated, almost extending to the posterior end.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

Hab.—?

Species 5. (Mus. Brit.)

GASTROCHÆNA DIFFICILIS. *Gas. testâ obliquâ, tenuiter striatâ, compressâ, cuneiformi, antice gibbosâ, angustâ, posticè latâ, ad terminum acuminatâ; hiatu lato, paulò post medium extenso.*

THE DIFFICULT GASTROCHÆNA. Shell oblique, finely striated, compressed, cuneiform, anteriorly gibbosous, narrow; posteriorly broad, acuminate at the end; hiatus broad, extended nearly to the end.

DESHAYES. MS. in Cuming's Collection.

Hab. Isl. St. Thomas.

A rather cuneiform species, but more depressed than the one so named.





6a



7.



8.



6b



9a



10.



11.



8b

GASTROCHENA.

PLATE II.

Species 6. (Mus. —?)

GASTROCHENA RETZII. *Gas. testū oblongā, subcuneiformis, antīcē attenuatā, inflatā, tenui; epidermide flavescenti indutā; latere postico latē truncatō; areā posticā trigonā, elevatā; areā dorsali depresso, angustā; hiatu maximo, latissimo, ferē ad terminum posticum extenso.*

RETIUS'S GASTROCHENA. Shell oblong, rather cuneiform, anteriorly attenuated, inflated, thin; covered with a yellowish epidermis; posterior side broadly truncated; posterior area trigonal, raised; dorsal area depressed, narrow; hiatus very large, very broad, extended almost to the posterior termination.

DESHAYES. Conch. île Réunion, p. 7.

Hab. Isl. Bourbon.

Species 7. (Mus. Sowerby.)

GASTROCHENA PHILIPPINENSIS. *Gas. testū angustā, rectiñculā, tenui, tenuiter et distanter elevato-striatā; latere antico acuminato, latē hiantē; latere postico subacuminato.*

THE PHILIPPINE GASTROCHENA. Shell narrow, rather straight, thin, with fine, raised, distant striæ, anterior side acuminated, broadly gaping; posterior side rather acuminate.

DESHAYES. Proc. Zool. Soc. 1854, p. 328.

Hab. Isl. Zebu, Philippines.

Species 8. (Mus. Brit.)

GASTROCHENA DENTICULATA. *Gas. testū brevi, altā, inflatā; medio subdepresso; latere antico ante umbonem paulò producto, obliquè striis elevatis minutissimè denticulatis sculpto; hiatu mediocri.*

THE DENTICULATED GASTROCHENA. Shell short, high, inflated; slightly depressed in the middle; anterior side a little produced in front of the

umbones, sculptured obliquely with raised, very minutely denticulated striæ; hiatus moderate.

DESHAYES. Proc. Zool. Soc. 1856, p. 328.

Hab. W. Columbia.

The sculpture in the front part of this shell is sufficient to distinguish the species.

Species 9. (Mus. Sowerby.)

GASTROCHENA CUCULLATA. *Gas. testū cuneiformi, crassū; latere antico brevissimo, angustissimo; latere postico latē expanso, versus terminum cucullato; hiatu ovato, mediocri; cardine dentibus magnis.*

THE HOODED GASTROCHENA. Shell cuneiform, thick; anterior side very short, very narrow; posterior side broadly expanded, hooded towards the end; hiatus ovate, moderate; hinge with large teeth.

DESHAYES. Proc. Zool. Soc. 1856, p. 329.

Hab. W. Indies.

A large and remarkable species, with a peculiar hollow convexity in the valves towards the posterior end.

Species 10. (Mus. Brit.)

GASTROCHENA ROSTRATA. *Gas. testū subcompressū, tortuosa, oblongā, epidermide fuscā indutā; latere antico ante umbones producto, prope terminum rugato; hiatu maximo, ferē ad terminum posticum extenso; latere postico trigono, angulato, ante angulum depresso; areā posticā elevatā, contuberculatā, profundè rugatā; ad terminum latē truncatā; areā dorsali latā, expansā; ligamento magno, brevi.*

THE ROSTRATED GASTROCHENA. Shell rather compressed, tortuous, oblong, covered with a brown epidermis; anterior side produced in front of the umbones, wrinkled near the end; hiatus very

GASTROCHÆNA.—PLATE II.

large, almost extending to the end; posterior side trigonal, angular, depressed in front of the angle; posterior area elevated, contabulated, deeply wrinkled, broadly truncated at the end; dorsal area broad, expanded; ligament large, short.

SPENGLER. Guerin, Mag. Hist. Nat.

Hab. Isl. St. Thomas.

Species 11. (Mus. Brit.)

GASTROCHÆNA RUPELLII. *Gas. testâ crassâ, subovatâ, inflatâ, latere antico ante umbones subproducto,*

quam posticum angustiusculo, tenuiter striato, umbonibus tumidissimis; medio laevigato, striato; latere postico validè concentricè striato; hintu ventrali moderatè arcuato.

RUPELL'S GASTROCHÆNA. Shell thick, subovate, inflated, anterior side rather produced in front of the umbones, narrower than the posterior, finely striated; umbones very tumid; middle smooth, striated; posterior side strongly concentrically striated; ventral hiatus moderately arched.

DESHAYES. Proc. Zool. Soc. 1854, p. 328.

Hab. Red Sea.





12.



14.



16.



18^a



18^b



16^c



18.



20



19



GASTROCHENA.

PLATE III.

Species 12. (Mus. Brit.)

GASTROCHENA MYTLOIDES. *Gas. testū compressū, epidermide flavescētū inolutū, oblongū, tortuosū; latere antico ante umbones producto, acuminato; latere postico ante aream depresso, areā posticā contuberculatū, distanter sulcatū; areā dorsali angustū.*

THE MITTUS-SHAPED GASTROCHENA. Shell compressed, covered with a yellowish epidermis, oblong, tortuous; anterior side produced in front of the umbones, acuminate; posterior side depressed in front of the area, posterior area contubulated, distantly grooved; dorsal area narrow.

LAMARCK. Anim. s. Vert.

Hab. — ?

Resembling *Gastrochena rostrata*, but with dorsal area very narrow, and posterior flattened area grooved at distant intervals.

Species 13. (Mus. Brit.)

GASTROCHENA RUGULOSA. *Gas. testū depresso, obliquè cuneiformis, elongatū, antice angustū, subacuminatū, posticè concentricè distanter liratū; hiatus mediorum.*

THE WRINKLED GASTROCHENA. Shell depressed, obliquely cuneiform, lengthened, narrow in front, rather acuminate, posteriorly concentrically distantly ridged; gape moderate.

SOWERBY. Proc. Zool. Soc. 1834, p. 22.

Hab. Galapagos Islands.

Species 14. (Mus. Brit.)

GASTROCHENA LAMELLOSA. *Gas. testū compressū, angustū, elongatū, antice attenuatū, acuminatū, posticè concentricè laminis crebris liratū; hiatus centrali angusto, elongato.*

THE LAMELLATED GASTROCHENA. Shell compressed, narrow, elongated, anteriorly attenuated, acuminate, posteriorly concentrically ridged with frequent laminae, ventral hiatus narrow, long.

DESHAYES. Proc. Zool. Soc. 1854, p. 328.
Hab. Isl. Zebu, Philippines.

Species 15. (Mus. Brit.)

GASTROCHENA GIGANTEA. *Gas. testū elongatosovata, utrinque acuminatū, bimarginatū, densè striatū, media leviter depresso; hiatus latissimo, ferè ad terminum posticum valvatum extenso.*

THE GIGANTIC GASTROCHENA. Shell elongated-ovate, acuminate at each end, finely densely striated, slightly depressed in the middle; hiatus very broad, extending nearly to the end of the valves.

DESHAYES. MS. in Cuming's Collection.

Hab. — ?

This large species is named from specimens now in the British Museum. The valves are more regularly ovate, although acuminate at the end and lengthened, than those of *G. cuneiformis*.

Species 16. (Mus. Brit.)

GASTROCHENA OVATA. *Gas. testū ventricosissimū, brevi, ovalū, solidū, antice et usque ad medium concentricè striatū, post medium levigati, prope marginem dorsalem obliquè tumidi et validè concentricè striatū; hiatus centralis subrotundus.*

THE OVATE GASTROCHENA. Shell very ventricose, short, ovate, solid, anteriorly and as far as the middle concentrically striated, past the middle smooth, near the dorsal margin obliquely tumid, and strongly concentrically striated; ventral hiatus rather round.

SOWERBY. Proc. Zool. Soc. 1834, p. 21.

Hab. Panama.

Species 17. (Mus. Brit.)

GASTROCHENA PUPINA. *Gas. testū valvulis ignotis tubis levī, angustè bulbiformi, in sectiones quinque quasi articulatū, per latum ad testas adhaerenti.*

THE PUPINA GASTROCHENA. Shell with valves unknown; tube smooth, narrowly bulb-shaped, quasi-articulated in five sections, attached by the side to shells.

GASTROCHÆNA.—PLATE III.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

Hab. —?

This may be only a smooth variety of the *Gastrochæna lagenula*; but I have not seen the valves.

Species 18. (Fig. a, b. Mus. Sowerby.)

GASTROCHÆNA LAGENULA. *Gas. testâ parvâ, arcuatâ, tenui, angustâ; areâ posticâ in tabulas divisâ, inter tabulas sulcatâ. Tubâ irregulariter bulbiformi, agglutinanti, quasi articulatim divisâ.*

THE FLACK GASTROCHÆNA. Shell small, arched, thin, narrow; posterior area divided in tablets, with grooves between the tablets. Tube irregularly bulbiform, agglutinating, divided into quasi-articulations.

LAMARCK. Anim. s. Vert.

Hab. Ceylon, Arracan.

In Adams's Genera, this and the preceding species are included in the genus *Guettiera*. The valves of *G. lagenula*, however, are those of a true *Gastrochæna*, while those of *Guettiera* have the characteristics of true *Teredines*.

Species 19. (Mus. Brit.)

GASTROCHÆNA TRUNCATA. *Gas. testâ rugosâ, solidiusculâ, epidermide fuscâ inolutâ; latere antico subat-*

tenuâ, umbonibus gibbosâ; latere postico angulato, latè truncato; areâ dorsali depressâ; hiatu lato, elongato; dente cardinali magno.

THE TRUNCATED GASTROCHÆNA. Shell rugose, rather solid, covered with a brown epidermis; anterior side rather attenuated, umbones gibbos; posterior side angular, broadly truncated; dorsal area depressed; hiatus broad, elongated; cardinal tooth large.

SOWERBY. Proc. Zool. Soc. 1834, p. 21.

Hab. Bay of Panama.

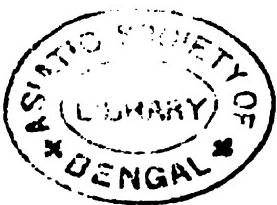
Species 20. (Fig. a. Mus. Brit. Fig. b, Plate IV., Mus. Sowerby.)

GASTROCHÆNA CUNEIFORMIS. *Gas. testâ cuneiformi, tenuiuscultâ, antice attenuatâ, ante umbones subproductâ, acuminatâ; latere posticoloato, versus terminum obliquè subacuminato; hiatu moderatâ elongato.*

THE WEDGE-SHAPED GASTROCHÆNA. Shell wedge-shaped, rather thin, anteriorly attenuated, a little produced in front of the umbones, acuminate; posterior side broad, obliquely rather acuminate, towards the end. Hiatus moderately long.

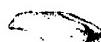
SPENGLER. Gnerin, Mag. Nat. Hist.

Hab. Isl. Zebu, Philippines.

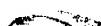




20^b



21



22



23



24



25



26



27



28



29



GASTROCHÆNA.

PLATE IV.

Species 20. (F. b. See Plate III.)

Species 21. (Mus. Brit.)

GASTROCHÆNA HYALINA. *Gas. testâ tenuissimâ, semi-pellucidâ, obliquè attenuatâ, antice brevissimâ, angustissimâ, posticè latiusculâ, acuminatâ; hiatu breviusculo.*

THE HYALINE GASTROCHÆNA. Shell very thin, semi-pellucid, obliquely attenuated, anteriorly very short, posteriorly rather broader, acuminated; hiatus rather short.

SOWERBY. Proc. Zool. Soc. 1854, p. 22.

Hab. — ?

Species 22. (Mus. Brit.)

GASTROCHÆNA SPATHULATA. *Gas. testâ tenuissimâ, compressâ, cuneiformi, posticè rugatâ, truncatâ; umbonibus terminalibus; hiatu angustiusculo, elongato.*

THE SPATULATE GASTROCHÆNA. Shell very thin, compressed, wedge-shaped, posteriorly wrinkled, truncated; umbones terminal; hiatus rather narrow, elongated.

DESHAYES. Proc. Zool. Soc. 1854, p. 229.

Hab. Isl. Bohol, Philippines.

Species 23. (Mus. Brit.)

GASTROCHÆNA IMPRESSA. *Gas. testâ subovatâ, tenui, tenuiter striatâ, utrinque acuminatâ, posticè obliquè sulco depressâ; hiatu lato, elongato, ferè ad terminum valve extenso.*

THE IMPRESSED GASTROCHÆNA. Shell rather oval, thin, finely striated, acuminated at each end; posteriorly obliquely depressed with a groove; hiatus broad, elongated, nearly extended to the end of the valve.

DESHAYES. Proc. Zool. Soc. 1854, p. 322.

Hab. — ?

Species 24. (Mus. Brit.)

GASTROCHÆNA LÄVIGATA. *Gas. testâ ventricosâ, brevi, obliquè cuneiformi; lärigata, cæruleo-alba; latere postico subacuminato; hiatu brevi, angustiusculo.*

THE SMOOTH GASTROCHÆNA. Shell ventricose, short, obliquely cuneiform, smooth, bluish white, posterior side rather acuminated; hiatus short, rather narrow.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

Hab. — ?

Species 25. (Mus. Brit.)

GASTROCHÆNA HUMILIS. *Gas. testâ ventricosâ, brevi, obliquè cuneiformi, tenuiter concentricè striatâ; latere postico subacuminato; hiatu brevi, angustiusculo.*

THE HUMBLE GASTROCHÆNA. Shell ventricose, short, obliquely cuneiform, finely concentrically striated; posterior side rather acuminated; hiatus short, rather narrow.

DESHAYES. Proc. Zool. Soc. 1854, p. 327.

Hab. St. Vincent.

Species 26. (Mus. Brit.)

GASTROCHÆNA INTERSECTA. *Gas. testâ brevi, latâ, sub-compressâ, laminis concentricis numerosis subdistantibus et alteris intermediis minoribus tenuiter sculptâ; latere antico angustissimo, brevi; latere postico lato, margine dorsali elevato, marginè terminuli subrotundato.*

THE INTERSECTED GASTROCHÆNA. Shell short, broad, rather compressed, sculptured with numerous rather distant and other intermediate smaller concentric laminae; anterior side very narrow, short; posterior side broad, dorsal margin raised, terminal margin rather rounded.

DESHAYES. Proc. Zool. Soc. 1854, p. 327.

Hab. — ?

GASTROCHLÆNA.—PLATE IV.

The larger concentric ridges are a little distant, and the intervals are filled up with smaller raised striae.

Species 27. (Mus. Brit.)

GASTROCHLÆNA TENERA. *Gas. testâ tenuissimâ, elongatâ, angustâ, compressâ, tenuissimâ striatâ, modioliformi, post medium obliquè vie conspicuè sulcatâ; hiatus angustiusculo, elongato.*

THE THIN GASTROCHLÆNA. Shell very thin, elongated, narrow, compressed, very finely striated, shaped like a modiola, with scarcely conspicuous oblique sulcus; hiatus very narrow, elongated.

DESHAYES. Proc. Zool. Soc. 1854, p. 327.

Hab. Philippine Islands.

Species 28. (Mus. Brit.)

GASTROCHLÆNA INTERRUPTA. *Gas. testâ angustâ, rectiusculâ, elongatâ, subdepressâ, tenuissimâ, levigatâ; area posticâ elevatâ, sulcis concéntricis tribus vel quatuor divisiâ; hiatus elongato-ovalâ, posticè abruptè terminanti.*

THE INTERRUPTED GASTROCHLÆNA. Shell narrow, rather straight, elongated, rather depressed, very thin, smooth; posterior area raised; divided by

three or four grooves; hiatus elongate-oval, posteriorly abruptly terminating.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

Hab. Philippine Islands.

The valves of this species resemble those of *Gastrochlaena lugenula*, but are very much more arched. The grooves, by which the posterior area is divided into a series of tablets, have probably, in the latter species, some connection with the exterior partitions of the tube. We have not the tube of the present species, but believe it will prove to belong to the same group.

Species 29. (Mus. Brit.)

GASTROCHLÆNA MACROCHISMA. *Gas. testâ brevissimâ, inflatâ, rotundato-cuneiformi, tenuiter striati; latere antico ante umbones producto, subacuminato; latere postico latissimo, ad terminum subrotundo, margine dorsali declivi; hiatus latissimo, breviusculo.*

THE WIDE-GAPING GASTROCHLÆNA. Shell very short, inflated, roundly cuneiform, finely striated; anterior side produced in front of the umbones, rather acuminate; posterior side very broad, rather rounded at the end, dorsal margin sloped; hiatus very wide, rather short.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

Hab. Philippine Islands.

G A S T R O C H Ä N A.

	Plate.	Species.		Plate.	Species.
apertissima, <i>Deshayes</i>	I.	4	lamellosa, <i>Deshayes</i>	III.	14
brevis, <i>Sowerby</i>	I.	3	macrochisma, <i>Deshayes</i>	IV.	29
cucullata, <i>Deshayes</i>	II.	9	modiolina, <i>Lamarek</i>	I.	1
cuneiformis, <i>Spengler</i>	III. IV.	20	mytiloides, <i>Lamarek</i>	III.	12
denticulata, <i>Deshayes</i>	II.	8	ovata, <i>Sowerby</i>	III.	16
difficilis, <i>Deshayes</i>	I.	5	Philippensis, <i>Deshayes</i>	II.	7
dubia, <i>Pennant</i>	I.	1	plicatilis, <i>Deshayes</i>	I.	2
gigantea, <i>Deshayes</i>	III.	15	pupina, <i>Deshayes</i>	III.	17
hyalina, <i>Sowerby</i>	IV.	21	Retzii, <i>Deshayes</i>	II.	6
humilis, <i>Deshayes</i>	IV.	25	rostrata, <i>Deshayes</i>	II.	10
impressa, <i>Deshayes</i>	IV.	23	rugulosa, <i>Sowerby</i>	III.	13
interrupta, <i>Deshayes</i>	IV.	28	Rupellii, <i>Deshayes</i>	II.	11
interscta, <i>Deshayes</i>	IV.	26	spathulata, <i>Deshayes</i>	IV.	22
levigata, <i>Deshayes</i>	IV.	24	tenera, <i>Deshayes</i>	IV.	27
lagenula, <i>Lamarek</i>	III.	18	truncata, <i>Sowerby</i>	III.	19

MONOGRAPH
OF THE GENUS
XYLOPHAGA, NAVEA.

"One Name above all glorious name
With its ten thousand tongues
The everlasting sea proclaims,
Echoing angelic songs." - *Keble.*





r^d



r^c



r^b



r^d



2^a



2^b

Nava



3

X Y L O P H A G A.

Genus XYLOPHAGA. Turton.

MOLLUSCUM TEREBRANS, *vermiforme*, *siphonibus ad terminum divisum*. *Testa bivalvis globosa, antice latissime angulatum apertum, postice ferè clausum, medio sulco lato divisum, cardine edentulo, calloso. Tubum nullum.*

BORING WORM-SHAPED MOLLUSC, with siphons divided at the end. Shell bivalve, globose, anteriorly very widely angularly open, posteriorly nearly closed, divided in the middle with a wide groove; hinge with no teeth, callous. No tube.

Xylophagæ are found in floating wood, generally boring across the grain and not with it, as in the case of Teredo. Only two species are known; one British and Boreal, the other collected by Mr. Cuming at Valparaiso.

Species 1. (Mus. Sowerby.)

XYLOPHAGA DORSALIS. *Xyl. testa globosa, epidermide tenui aurantio-viridi indutâ, medio sulco piano costis duabus marginato divisum; latere antico brevi, validissime angulato; latere postico breviusculo, margine dorsali elevato; laminis accessoribus trigonis, latitudinem longitudinem superante.*

THE DORSAL XYLOPHAGA. Shell globose, covered with an orange-green epidermis, divided in the middle by a flat groove bordered by two ribs; anterior side short, very strongly angular; posterior side rather short, with dorsal margin raised, accessory plates trigonal, broader than long.

TURTON. British Bivalves, II. Fig. 45.

Species 2. (Fig. a, b, Mus. Brit.)

XYLOPHAGA GLORIOSA. *Xyl. testa latiuscula, latere antico moderate angulata; latere postico producta, margine dorsali declivis; laminis accessoribus angulis, longitudine latitudinem superantibus.*

THE GLOBOSE XYLOPHAGA. Shell rather broad, anterior side moderately angular; posterior side produced, dorsal margin sloped; accessory plates claw-shaped, longer than broad.

SOWERBY. Proc. Zool. Soc. 1834; Thes. Conch. No. 10, p. 503.

Hab. Valparaiso.

The shell is wider and the posterior dorsal margin more sloped than in *X. dorsalis*. The proportions of the accessory plates are reversed.

N A V E A.

Genus NAVEA. Gray.

Testa ovata, antice late arcuatim hians, postice clausa, margine superiori hiatus antice laminâ reflexâ marginato.

Shell ovate, anteriorly broadly gaping in an arch, posteriorly closed, upper margin of the anterior hiatus bordered by a reflected lamina.

I have not seen any species of this genus but the following one, which seems to perforate the sponges in which it is found embedded.

Species. (Fig. 3, Mus. Brit.)

NAVEA SUBGLOBOSA. *Nav. testa medio sulco divisa; latere postico breve, rotundo; latere antico, hiatus maximo, supernè ad marginem utrinque cuneato et reflexo.*

THE SUBGLOBOSE NAVEA. Shell divided by a groove in the middle; posterior side short, rounded; anterior side with a very large hiatus, reflected and cuneate at the margin above.

GRAY. MS. in Brit. Mus.

Hab. — ?

MONOGRAPH
OF THE GENUS
FISTULANA.

“Man is permitted much
To scan and learn
In Nature’s frame.”—*J. H. Newman.*



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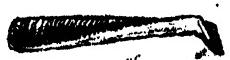


2^a

1a



3a



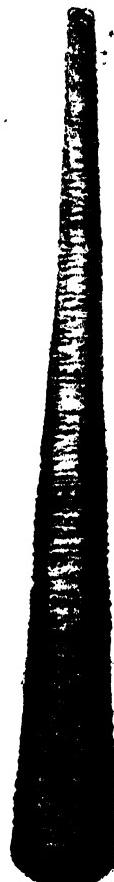
2^c



4b



3b



3c

FISTULANA.

Genus FISTULANA. Lamarek.

MOLLUSCUM VERMIFORME, ARENICOLUM, TUBIGERUM.

Valvulae liberae, elongatae, late et angulariter hiantes; cardine linearis, edentulo. Tuba recta, circularis, antice attenuata, versus terminum posticum crescent, termino per discum convexum perforatum clauso.

Syn. *Gastrochana*. Spengler (Adams).

MOLLUSK VERMIFORM, inhabiting sand, tube-forming.

Valves free, elongated, broadly and angularly gaping; hinge linear, toothless. Tube straight, circular, anteriorly attenuated, increasing towards the posterior end; end closed by a convex perforated disc.

Adopting the nomenclature by which this genus is generally known, we should say that the *Fistulana* resemble the *Gastrochaenæ* in the most essential characters. Both have free gaping valves enclosed in a tube closed at the anterior end. The main difference is that the former bury their tubes in the sand, only the small siphonal end being visible, but are unattached, while the latter are boring mollusca, and attach their tubes to the various substances in which they make their crypts.

The two or three species hitherto known are found at low water in Singapore, Philippines, and other islands of the Eastern seas.

Species 1. (Fig. a, b, Mus. Brit.)

FISTULANA CLAVA. *Fis. testa oblonga, rectiuscula, late angulatim hianti, ad terminum posticum, late truncata, margine dorsali recto; umbonibus ferè terminalibus; latere antico brevi, subquadrato, acutè angulato, margine denticulato. Tuba elongata, levigata, concentricè tenuiter striata.*

THE CLUB FISTULANA. Shell oblong, rather straight, broadly angularly gaping, broadly truncated at the posterior end, dorsal margin straight; umbones nearly terminal; anterior side short, rather square, sharply angular, margin denticulated. Tube elongated, smooth, concentrically finely striated.

LAMARCK. *Anim. sans Vert.*

Gastrochana munia. Spengler.

Hab. Singapore.

Species 2. (Fig. a, b, c, Mus. Brit.)

FISTULANA AGGLUTINANS. *Fis. testa angustissima, tortuosa; hiatu angulatissimo. Tuba lapillosum arenaceum grana agglutinante.*

THE AGGLUTINATING FISTULANA. Shell very narrow, tortuous; hiatus very angular. Tube agglutinating small stones and grains of sand.

DESHAYES. Proc. Zool. Soc.

Hab. Philippines, &c.

Species 3. (Fig. a, b, c, Mus. Brit.)

FISTULANA GRANDIS. *Fis. testa valvulis magnis, latis, posticè rotundè inflatis; hiatu vix angulato, latere antico brevissimo, arcuato. Tuba concentricè rugis annulata.*

THE LARGE FISTULANA. Shell with large broad valves, roundly inflated posteriorly; hiatus scarcely angular, anterior side very short, arched. Tube concentrically annulated with wrinkles.

DESHAYES. Proc. Zool. Soc.

Hab. Philippines, &c.

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MONOGRAPH

OF THE GENUS

R I S S O A.

Lord! ope our hearts that we may feel,
Unbind our eyes that we may see,
The wondrous love Thy works reveal.—*Charles Mackay.*



RISSOA.

PLATE I.

Genus RISSOA. Freminville.

Testa marina, spiralis, plurimque turrita, levis vel costata; spiræ acuminatæ, aperturæ semirotundæ vel pyriformi, subcanaliculatæ vel integræ; labio externo plurimque incrassato. Operculum cornuum, subspirale.

Shell marine, spiral, generally turreted, smooth or ribbed; spire acuminate; aperture half-round or pyriform, slightly channelled or entire; outer lip for the most part thickened. Operculum horny, subspiral.

The above description and the following monograph are intended to include the genera *Rissoa*, *Atronia*, *Rissoina*, *Hydrobia*, and other genera, which have been separated but not very well defined, and which at least require more careful revision than has yet been accorded to them, and which it is not within the scope of this work to give. The *Rissoe* or 'Rissoide' are found in all parts of the world, generally in shallow water among seaweeds.

Species 1. (Mus. Sowerby.)

Rissoa (-oina) SCALAROIDES. *Riss. testâ albâ, altissimâ, anfractibus senis, productis, medio angulatis, ad angulum plicatis; aperturâ ferè rotundâ, margine crasso, rotundo, labio interno distincto, angusto.*

THE SCALARIA-SHAPED RISSOA. Shell white, very high; whorls six, produced, angular in the middle, plaited at the angle, aperture almost round; margin thick, round; inner lip distinct, narrow.

C. B. ADAMS. Shells of Jamaica.

Hab. Philippines.

Species 2. (Mus. Marratt.)

Rissoa EUROPEA. *Riss. testâ subpyramidalâ, costis numerosis longitudinalibus et striis spiraliibus sculptâ, fulvâ, latè fusco-fasciatâ; spirâ pyramidalâ, anfractibus convexiusculis; aperturâ breviusculâ, margine externo albo, crenulato.*

THE EUROPEAN RISSOA. Shell rather pyramidal, sculptured with numerous longitudinal ribs and

spiral striae, fulvous, with broad brown bands; spire pyramidal, whorls rather convex, aperture rather short, outer lip white, crenulated.

RISSO. Eur. Mer. Pl. IX. f. 156.

Turbo cimeæ. Linnaeus.

Rissoa Fremincillea, Risso.

Rissoa granulata, Philippi.

Rissoa mammillata, Risso.

Hab. Britain. Mediterranean.

Species 3. (Mus. Marratt.)

Rissoa MONTAGUI. *Riss. testâ fuscâ, breviusculâ, costis paucis ruditè crenulatis sculptâ; spirâ productâ, pyramidalâ; anfractibus senis, convexiusculis; aperturâ subrotundâ, margine crenulato.*

MONTAGU'S RISSOA. Shell brown, rather short, sculptured with few, coarsely crenulated ribs; spire produced, pyramidal; whorls six, rather convex; aperture rather rounded, margin crenulated.

PAYRAUDEAU. Cat. Moll. Corse. Pl. V. f. 13-14.

Hab. Mediterranean.

The sculpture resembles that of *Rissoa Europaea*, but the ribs are fewer, and more distantly crenulated.

Species 4. (Mus. Brit.)

Rissoa CUMINGII. *Riss. testâ turritâ, albâ, pyramidalâ, acutè cancellatâ; anfractibus septenis, altis, rotundis; ultimo inflato; aperturâ subtrigonâ, infrâ subcanaliculatâ, margine crasso, crenato.*

CUMING'S RISSOA. Shell turreted, white, pyramidal, sharply cancellated; whorls seven, high, rounded, last swelled; aperture rather trigonal, with a slight canal below, margin thick, crenated.

REEVE. Proc. Zool. Soc.

Hab. Philippines.

Species 5. (Mus. Brit.)

Rissoa BRUGUIERI. *Riss. (-oina) testâ pyramidalâ, alta, albâ, solidâ, costis subcurvis et sulcis distans, sculptis, spirâ productâ, pyramidalâ, an-*

RISSOA.—PLATE I.

fractibus senis, convexiusculis; aperturā pyriformi, infrā coniculato, labio externo reflexo, lato, margine interno producto, tenui.

BRUGUIÈRE'S RISSEA. Shell pyramidal, high, white, solid, sculptured with slightly curved ribs and distant grooves; spire produced, pyramidal, whorls six, rather convex; aperture pyriform, channelled below; outer lip reflected, broad, inner margin produced, thin.

PAYRAUDEAU. Cat. Moll. Corse. Pl. V. f. 17–18.

Hab. Mediterranean.

Species 6. (Mus. Sowerby.)

RISSEA SCALARIANA. *Riss. (-oina) testā pyriformi, albida, parvū, longitudinaliter costatā, spiraliter tenuissimè striatā, spirālē altā, acuminatā; anfractibus convexis, ultimo ventricoso; aperturā semirotundā.*

THE SCALARIA RISSEA. Shell pyriform, whitish, small, longitudinally ribbed; spirally very finely striated; spire raised, acuminate; whorls convex, last ventricose; aperture half-round.

ADAMS.—?

Hab. St. Vincent.

Species 7. (Mus. Sowerby.)

RISSEA D'ORBIGNYANA. *Riss. (-oina) testā turritā, tenui, fulvo-albidā; spirā elongatā, anfractibus novenis, irregulariter varicosa, inaequaliter convexiusculis; aperturā subtrigondā, suprà infrāque canaliculatā; labio externo anticè angulatum producto.*

D'ORBIGNY'S RISSEA. Shell turreted, thin, whitish fawn; spire elongated, whorls nine, irregularly varicose, unequally rather convex; aperture rather trigonal, channelled above and below; outer lip angularly produced in front.

A. ADAMS. Proc. Zool. Soc. 1865. p. 64.

Hab. Australia.

Species 8. (Mus. Marratt.)

RISSEA BRYEREA. *Riss. (-oina) testā albā, obliquè costatā; spirā turritā, elevatā; anfractibus septenī, convexiusculi; aperturā brevi, pyriformi, suprà infrāque canaliculatā.*

BRYER'S RISSEA. Shell white, obliquely ribbed; spire turreted, raised; whorls seven, rather convex; aperture short, pyriform, channelled above and below.

MONTAGU. Test. Brit. Pl. XV. f. 8.

Hab. West Indies.

Species 9. (Mus. Sowerby.)

RISSEA CONCINNA. *Riss. (-oina) testā albida, turritā, altiusculā; anfractibus senis, convexiusculis, transversiter costatis, tenuissimè spiraliter striatis; aperturā majusculā, infrā profundè canaliculatā.*

THE NEAT RISSEA. Shell whitish, turreted, rather high; whorls six, rather convex; finely ribbed, very finely spirally striated; aperture rather large, deeply channelled below.

A. ADAMS.

Hab. Japan.

Species 10. (Mus. Marratt.)

RISSEA CALATHISCA. *Riss. (Alvania) testā brevi, subpyramidalatā, fuscā, longitudinaliter costatā; spiraliter sulcatā; costis rotundis, crenulatis; anfractibus ad suturam angulatis, aperturā subovatā, margine crasso, crenulato, albo.*

THE LITTLE BASKET RISSEA. Shell short, rather pyramidal, brown, longitudinally ribbed; spirally grooved; ribs round, crenulated; whorls angular at the suture; aperture rather oval, margin thick, crenulated, white.

MONTAGU. Test. Brit.

Hab. Britain.

Another variety is figured on Plate X.

RISSOA.

PLATE I.

Genus RISSOA. *Freminville.*

Testa marina, spiralis, plerūque turrita, lœvis vel costata; spirā acuminatā, aperturā semirotundā vel pyriformi, subcanaliculatā vel integrā; labio externo plerūque incrassato. Operculum cornuum, subspirale.

Shell marine, spiral, generally turreted, smooth or ribbed; spire acuminate; aperture half-round or pyriform, slightly channelled or entire; outer lip for the most part thickened. Operculum horny, subspiral.

The above description and the following monograph are intended to include the genera *Rissoa*, *Alvania*, *Rissoina*, *Hydrobia*, and other genera, which have been separated but not very well defined, and which at least require more careful revision than has yet been accorded to them, and which it is not within the scope of this work to give. The *Rissoæ* or 'Rissoïdæ' are found in all parts of the world, generally in shallow water among seaweeds.

Species 1. (Mus. Sowerby.)

Rissoa (-oina) SCALAROIDES. *Ris. testā albā, altissimā, anfractibus sexīs, productis, medio angulatis, ad angulum plicatis; aperturā ferè rotundā, margine crasso, rotundo, labio interno distincto, angusto.*

THE SCALARIA-SHAPED RISSOA. Shell white, very high; whorls six, produced, angular in the middle, plaited at the angle, aperture almost round; margin thick, round; inner lip distinct, narrow.

C. B. ADAMS. Shells of Jamaica.

Hab. Philippines.

Species 2. (Mus. Marratt.)

RISSOA EUROPEA. *Riss. testā subpyramidalē, costis numerosis longitudinalibus et striis spiraliibus sculptā, fulvā, latē fusco-fasciatā; spirā pyramidatā, anfractibus convexiusculis; aperturā breviūsculā, margine externo albo, crenulato.*

THE EUROPEAN RISSOA. Shell rather pyramidal, sculptured with numerous longitudinal ribs and

spiral striae, fulvous, with broad brown bands; spire pyramidal, whorls rather convex, aperture rather short, outer lip white, crenulated.

RISSO. *Eur. Mer. Pl. IX. f. 156.*

Turbo cimer. Linnaeus.

Rissoa Freminvillea, Risso.

Rissoa granulata, Philippi.

Rissoa mammillata, Risso.

Hab. Britain. Mediterranean.

Species 3. (Mus. Marratt.)

RISSOA MONTAGUI. *Riss. testā fuscā, breviūsculā, costis paucis ruditē crenulatis sculptā; spirā productā, pyramidatā; anfractibus sexīs, convexiusculis; aperturā subrotundā, margine crenulato.*

MONTAGU'S RISSOA. Shell brown, rather short, sculptured with few, coarsely crenulated ribs; spire produced, pyramidal; whorls six, rather convex; aperture rather rounded, margin crenulated.

PAYRAUDEAU. *Cat. Moll. Corse. Pl. V. f. 13-14.*

Hab. Mediterranean.

The sculpture resembles that of *Rissoa Europaea*, but the ribs are fewer, and more distantly crenulated.

Species 4. (Mus. Brit.)

RISSOA CUMINGI. *Riss. testā turritā, albā, pyramidatā, acutē cancellatā; anfractibus septenis, altis, rotundis; ultimo inflato; aperturā subtrigonalē, infrā subcanaliculatā, margine crasso, crenato.*

CUMING'S RISSOA. Shell turreted, white, pyramidal, sharply cancellated; whorls seven, high, rounded, last swelled; aperture rather trigonal, with a slight canal below, margin thick, crenated.

REEVE. *Proc. Zool. Soc.*

Hab. Philippines.

Species 5. (Mus. Brit.)

RISSOA BRUGUERI. *Riss. (-oina) testā pyramidatā, altā, albā, solidā, costis subcurvis et sulcis distan- tibus sculptis, spirā productā, pyramidatā, an-*

RISSOA.—PLATE I.

fractibus senis, convexiusculis; aperturā pyriformi, infrā coniculato, labio externo reflecto, lato, margine interno producto, tenui.

BRUGUIÈRE'S RISSEA. Shell pyramidal, high, white, solid, sculptured with slightly curved ribs and distant grooves; spire produced, pyramidal, whorls six, rather convex; aperture pyriform, channelled below; outer lip reflected, broad, inner margin produced, thin.

PAYRAUDEAU. Cat. Moll. Corse. Pl. V. f. 17-18.

Hab. Mediterranean.

Species 8. (Mus. Marratt.)

RISSEA BRYEREA. *Riss. (-oina) testā albā, obliquè costatā; spirā turritā, elevatā; anfractibus septenī, convexiusculis; aperturā brevi, pyriformi, suprā infrāque canaliculatā.*

BRYER'S RISSEA. Shell white, obliquely ribbed; spire turreted, raised; whorls seven, rather convex; aperture short, pyriform, channelled above and below.

MONTAGU. Test. Brit. Pl. XV. f. 8.

Hab. West Indies.

Species 6. (Mus. Sowerby.)

RISSEA SCALARIANA. *Riss. (-oina) testā pyriformi, albida, parvā, longitudinaliter costatā, spiraliter tenuissimè striatā, spirā altā, acuminatā; anfractibus convexis, ultimo ventricoso; aperturā semirotondā.*

THE SCALARIA RISSEA. Shell pyriform, whitish, small, longitudinally ribbed; spirally very finely striated; spire raised, acuminate; whorls convex, last ventricose; aperture half-round.

A. ADAMS.—?

Hab. St. Vincent.

Species 7. (Mus. Sowerby.)

RISSEA D'ORBIGNYANA. *Riss. (-oina) testā turritā, tenui, fulvo-albida; spirā elongatā, anfractibus novenis, irregulariter varicosis, inaequaliter convexiusculis; aperturā subtrigonā, suprā infrāque canaliculatā; labio externo anticè angulatum producto.*

D'ORBIGNY'S RISSEA. Shell turreted, thin, whitish fawn; spire elongated, whorls nine, irregularly varicose, unequally rather convex; aperture rather trigonal, channelled above and below; outer lip angularly produced in front.

A. ADAMS. Proc. Zool. Soc. 1865. p. 64.

Hab. Australia.

Species 9. (Mus. Sowerby.)

RISSEA CONCINNA. *Riss. (-oina) testā albida, turritā, altiusculi; anfractibus senis, convexiusculis, tenuiter costatis, tenuissimè spiraliter striatis; aperturā majusculā, infrā profundè canaliculatā.*

THE NEAT RISSEA. Shell whitish, turreted, rather high; whorls six, rather convex; finely ribbed, very finely spirally striated; aperture rather large, deeply channelled below.

A. ADAMS.

Hab. Japan.

Species 10. (Mus. Marratt.)

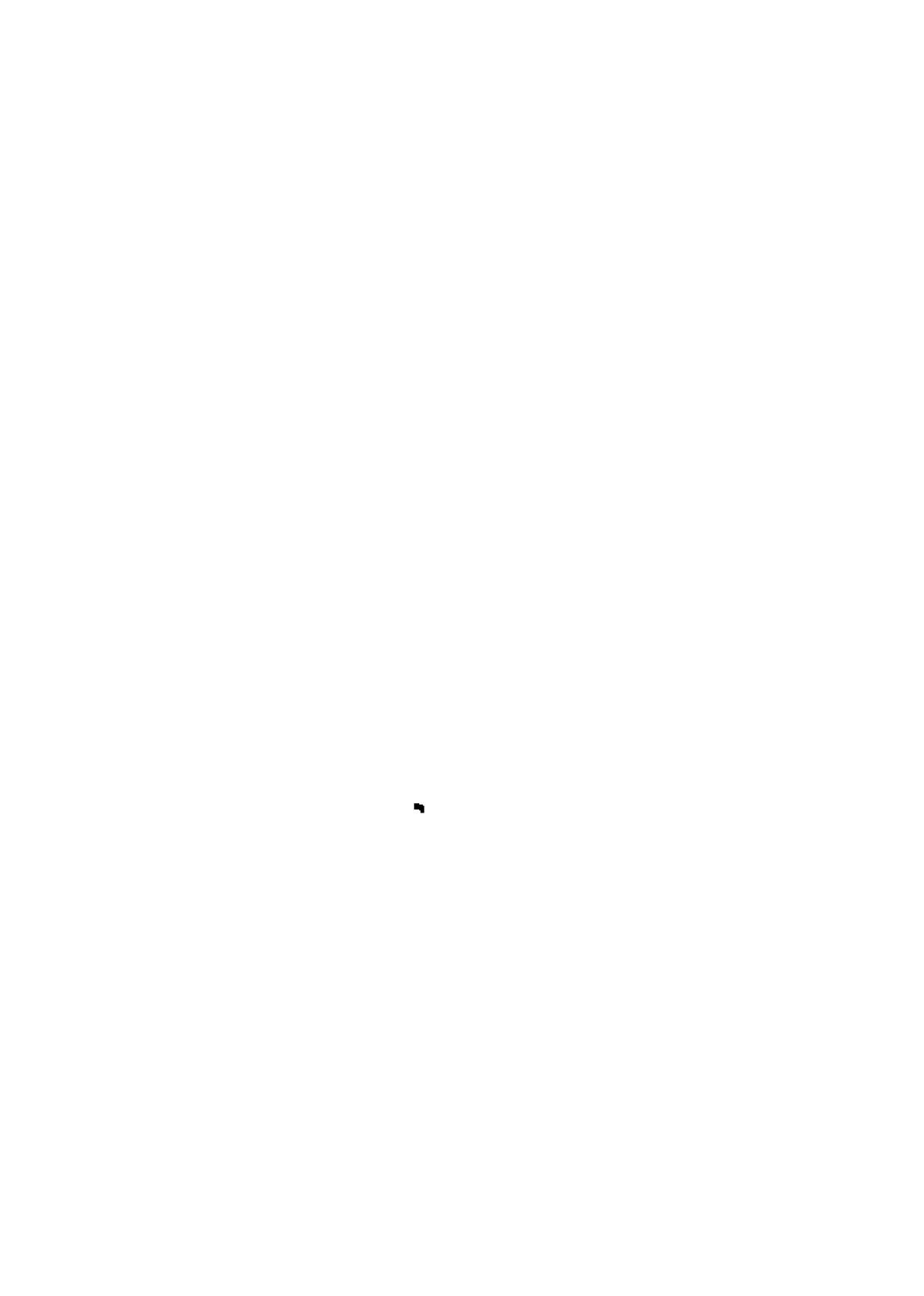
RISSEA CALATHISCA. *Riss. (Alvania) testā brevi, subpyramidalā, fusca, longitudinaliter costatā; spiraliter sulcatā; costis rotundis, crenulatis; anfractibus ad suturam angulatis, aperturā subovatā, margine crasso, crenulato, albo.*

THE LITTLE BASKET RISSEA. Shell short, rather pyramidal, brown, longitudinally ribbed; spirally grooved; ribs round, crenulated; whorls angular at the suture; aperture rather oval, margin thick, crenulated, white.

MONTAGU. Test. Brit.

Hab. Britain.

Another variety is figured on Plate X.





Unlabelled

R I S S O A.

PLATE II.

Species 11. (Mus. Sowerby.)

RISSEA AURISCALPUM. *Ris. (Acme) testā albā, ad aperturam apicemque purpurascēti, semipellucidā, altissimā, medio paulū inflato; apice acuminato; anfractibus septem ad novem, superioribus frequenter longitudinaliter costatis, ultimo elongato; aperturā magnā, ovalē, labio expanso.*

THE EAR-PICK RISSEA. Shell white, purplish at the aperture and apex, semipellucid, very elevated, a little inflated in the middle, apex acuminate; whorls seven, often longitudinally ribbed, last elongated; aperture large, oval, lip expanded.

LINNEUS, *Systema Naturae.*

Rissoa acicula, Risso.

Rissoa marginatus, Montagu.

R. acuta, Desmarest.

Hab. Mediterranean.

These long-spined *Rissoæ* do not seem to differ generically from the more typical forms.

Species 12. (Mus. Sowerby.)

RISSEA LABIOSA. *Ris. testā orato-acuminatā, tenui, semipellucidā, albo-purpurascēti, leviter costatā; apice acuminato; anfractu ultimo subinflato, costis infra medium discontinuis; aperturā magnā, elongatā, auriformi, labio expanso.*

THE MEMBRANOUS RISSEA. Shell ovate, acuminate, thin, semipellucid, purplish white, slightly ribbed; apex acuminate; last whorl rather inflated, ribs discontinued below the middle; aperture large, long, ear-shaped, outer lip expanded.

MONTAGU. *Test. Brit. Vol. II. p. 400.*

Hab. Great Britain, Mediterranean.

Species 13. (Mus. Sowerby.)

RISSEA VENUSTA. *Ris. testā subpyramidalē, subviridi, tenui, apice acuminato, anfractibus tenuiter costatis, ultimo subventricoso, infra medium lăvi-*

gatis; aperturā auriformi, labio expanso, intus margine acuto, extēs varicoso.

THE BROAD-LIPPED RISSEA. Shell rather pyramidal, greenish, thin; apex acuminated; whorls finely ribbed, last rather ventricose, smooth below the middle; aperture ear-shaped, lip expanded, inside having a sharp edge, outside varicose.

PHILIPPI. *Enum. Moll. Sie. Vol. I. p. 124, Pl. XXIII. f. 4.*

Hab. Mediterranean.

This does not appear to belong to any of the numerous varieties of *Rissoa labiata*. A certain closeness of the outer lip and the distinct cessation of the regular ribs at the middle of the last whorl serve to distinguish it.

Species 14. (Mus. Sowerby.)

RISSOINA CÆLATA. *Ris. (Rissoina) testā pyramidati, solidā, albā, costis nodosis spiraliter cinctā, longitudinaliter inter costas striatā; anfractibus actu, ad latera declivibus, superioribus longitudinaliter costatis, costis angulatis et nodosis; aperturā subtriangularē, labio externo crasso, crenulato.*

THE EMBOSSED RISSOINA. Shell pyramidal, solid, white, spirally girt with nodose ribs, longitudinally striated between the ribs; whorls eight, sloped at the sides, upper longitudinally ribbed, ribs angular and nodose; aperture subtriangular, outer lip thick, crenulated.

A. ADAMS. *Proc. Zool. Soc. 1851, 267.*

Rissoina striata, Quoy.

Hab. Siguijor.

Species 15. (Mus. Marrat.)

RISSEA CINGILLUS. *Ris. testā pyramidatā, levigatā, vel leviter spiraliter striatā, fulvā, castaneo-trifasciatā; anfractibus quinque, subrotundis; aperturā parvā, columellā validā, labio externo obtuse marginato.*

RISSOA.—PLATE II.

THE GIRDLE RISSOA. Shell pyramidal, smooth, or slightly spirally striated, fulvous, three-banded with chestnut; whorls five, a little rounded; aperture small, columella strong, outer lip blunted.

MONTAGU. *Testacea Britannica*, Vol. II. p. 357.

Rissoa vittata, Donovan.

Rissoa rupestris, Forbes.

Hab. British coasts.

abruptly sloped towards an acuminated apex, longitudinally ribbed, three lower raised, rather smooth, subcylindrical; suture deeply incised; aperture rather pyriform, outer lip expanded, rather thick.

SOWERBY. *Genera of Recent and Fossil Shells*.

Hab. Philippines. *Cerithidea* *Rissoa*.

Species 16. (Mus. Sowerby.)

RISSEA STRIATULA. *Ris. testâ albâ, brevi, spiraliter, prominenter, distanterque costatâ, inter costas longitudinaliter striatâ; anfractibus quinque, inflatis, gradatim crescentibus; aperturâ ovatâ, margine acuto, simplici.*

THE LITTLE STRIATED RISSOA. Shell white, short, spirally, prominently, and distantly ribbed, longitudinally striated between the ribs; whorls four, last large, finely ribbed at the middle, angularly flattened above near the suture; aperture short, lip crenulated.

MONTAGU. *Testacea Britannica*, Vol. II. p. 306, Pl. X. f. 5.

Turbo carinatus, Da Costa.

Turbo monilis, Fleming.

Hab. British coasts.

Beautifully sculptured with thread-like striae crossing prominent keel-like spiral ribs.

Species 17. (Mus. Sowerby.)

RISSEA SPIRATA. *Ris. (Rissoina) testâ albâ, turritâ, spiraliter tenuiiter striatâ; anfractibus novem, sex superioribus brevibus abruptè versus apicem acuminatum acclivibus, longitudinaliter costatis, tribus inferioribus elevatis, levigatis subcylindraceis; suturâ profundè incisâ; aperturâ subpyriformi, labio externo expanso crassiusculo.*

THE SPIRED RISSOA. Shell white, turreted, spirally finely striated; whorls nine, six upper short,

Species 18. (Mus. Sowerby.)

RISSEA PROXIMA. *Ris. testâ albâ, minudâ, tenui, ovalo-oblängâ, spiraliter densè striatâ; anfractibus quinque, inflatis, gradatim crescentibus; aperturâ ovatâ, margine acuto, simplici.*

THE APPROXIMATE RISSOA. Shell white, minute, thin, ovate-oblong, spirally closely striated; whorls five, inflated, gradually increased; aperture ovate, margin simple.

ALDER MS. Thomson, Ann. Nat. Hist. Vol. XX. p. 174.

Rissoa virginea, Brown.

Hab. Ireland, very rare.

Differing from *Rissoa vitrea* in being striated spirally and in the proportionate equality of increase in the whorls.

Species 19. (Mus. —? Copied.)

RISSEA VITREA. *Ris. testâ parrâ, albâ, tenui, semi-pellucidâ, ovato-oblängâ, levigatâ; anfractibus quinque, inflatis, penultimo magno elevato; aperturâ ovatâ, margine acuto, simplici.*

THE GLASSY RISSOA. Shell small, white, thin, semi-pellucid, ovate-oblong, smooth; whorls five, inflated, the last large, elevated; aperture ovate, margin sharp, simple.

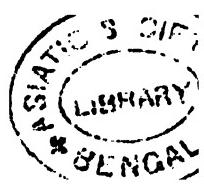
MONTAGU. *Testacea Britannica*, Vol. II. p. 351.

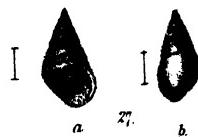
Rissoa glabrata, Megherle.

Rissoa crystallina, Brown.

Hab. Exmouth, Oban, &c.

The penultimate whorl is very large in proportion to the others.





R I S S O A.

PLATE III.

Species 20. (Mus. Sowerby.)

RISSEA COSTATA. *Ris. testā subpyramidalē, subven-tricosa, fulvā; anfractibus sex, prope suturam angulatis, obliquè costatis, spiraliiter striatis; ultimo infrā subcarinato; aperturā subquadratā, columellā rectiūsculā.*

THE RIBBED RISSOA. Shell rather pyramidal, rather ventricose, fulvous; whorls six, angular near the suture, obliquely ribbed; spirally striated, last slightly keeled beneath; aperture rather square, columella rather straight.

ADAMS. Trans. Lin. Soc. Vol. VIII. Pl. XIII. f. 13, 14.

Turbo costatus, Montagu.

Turbo plicatus, Muhlfeild.

Rissoa plicata, Michaud.

Hab. Britain.

Species 21. (Mus. —? Copied.)

RISSEA VENTRICOSA. *Ris. (Hydrobia) testā subpyra-midalē, levigatā, pallidē fulvā; anfractibus quinque, rotundis; ultimo ventricoso, leviter umbilicato; aperturā magnā, columellā rectiūsculā, labio externo tenui.*

THE VENTRICOSE RISSOA. Shell subpyramidal, smooth, pale fulvous; whorls five, rounded; last ventri-cose, slightly umbilicated; aperture large, columella rather straight, outer lip thin.

DE MOULINS. Bulletin de la Société Philosophique de Paris, p. 8. Pl. I. f. 2.

Hab. Mediterranean.

Species 22. (Mus. Sowerby.)

RISSEA LACTEA. *Ris. (Alvania) testā albā, ovatā, costellis numerosis, rotundis, crenulatis, spiralibus, supernè costis longitudinalibus sculptā; spirā parvā; ultimo anfractu et aperturā magnis, subovatis.*

THE MILK-WHITE RISSOA. Shell white, oval, sculp-tured with numerous rounded, crenulated, spiral ripples, and above with longitudinal ribs; spire small; last whorl and aperture large, ovate.

MICHAUD. Espèces de Risson, p. 9, f. 11, 12.

Rissoa cancellata, Recluz.

Species 23. (Mus. —? Copied.)

RISSEA ABYSSICOLA. *Ris. (Alvania) testā subovatā, albī, supernè costatā, inter costas profundè striatā, ad partem inferiorem ultimā anfractis spiraliiter costatā, spirā subpyramidalē, ultimo anfractu magno; aperturā latā, labio crasso, rotundo.*

THE DEEP-SEA RISSOA. Shell rather ovate, white, ribbed above, deeply striated between the ribs, spirally ribbed at the lower part of the last whorl, spire somewhat pyramidal, last whorl large; aperture broad, lip thick, round.

FORBES. Brit. Moll. p. 86, Pl. LXXVIII. f. 1.

Hab. North Scotland.

Species 24. (Mus. Sowerby.)

RISSEA CORILEA. *Ris. (Rissoina) testā albā, solidā, pyramidalē, costis nodosis spiralibus et longitudi-nalibus cancellatā, inter costas forcolatā; spiri elongatā, subtortuā, apice obtuso, anfractibus quinque, penultimo tumido; aperturā ovatā, infra canaliculatā, labio crasso, crenulatā.*

THE CORILEAN RISSOA. Shell white, solid, pyramidal, cancellated with nodose spiral and longitudinal ribs, pitted between the ribs; spire elongated, rather tortuous, apex blunt; whorls five, last but one tumid; aperture ovate, with a channel below, lip thick, crenulated.

D'ORBIGNY. Mollusques de l'Ile de Cuba.

Hab. Coast of Cuba.

Species 25. (Mus. Sowerby.)

RISSEA CIMICOIDES. *Ris. (Alvania) testā albā, subfusi-formi; spiraliiter prominenter costatā (interstitiis profundis), supra medium longitudinaliter vali-dissimè crenulatim costatā; spirā acuminatā; anfractibus supra suturam canaliculatis, ultimo*

RISSOA.—PLATE III.

tumido; aperturâ subrotundâ, supernè prope suturam angulatâ.

THE BUG-SHAPED RISSOA. Shell white, subfusiform, spirally prominently ribbed, interstices deep; above the middle, longitudinally very strongly crenulately ribbed; spire acuminated; whorls channelled above the suture, last tumid in the middle, aperture rather rounded, angular near the suture above.

FORBES. Brit. Moll.

Hab. Britain.

Species 26.

RISSEA ZETLANDICA. *Ris. (Alvania) testâ orato-subelongatâ, pallidâ fulvâ, spiri turretâ, unfractibus subquadratis, validâ nodoso-costatis, cancellatis; ultimo infrâ carinato; aperturâ brevi, subrotundâ, columellâ supernè tumidâ, labio externo crasso, crenulato.*

THE ZETLAND RISSEA. Shell ovate, rather elongated, pale fulvous, spire turreted, whorls rather square, cancellated with strong nodose ribs, the last keeled below; aperture short, rather rounded; columella tumid above, outer lip thick, crenulated.

MONTAGU. Testacea Britannica. Mont. Trans. Linn. Soc. Vol. XI. p. 194, Pl. XIII. f. 5.

Rissoa cyclostomata, Recluz.

Hab. Great Britain.

Species 27. (Fig. a, b, c, Mus. Sowerby.)

RISSEA ULVÆ. *Ris. (Hydrobia) testâ fulvâ, trochiformi, solidâ, levî, spiri acuminatâ, elevatâ, unfractibus planulatis, suturâ incisâ separatis, ultimo leviter angulato; aperturâ ocatâ, labio interno integro.*

THE SEA-WEED RISSEA. Shell fulvous, trochus-shaped, solid, smooth; spire acuminated, raised; whorls

flattened, separated by an incised suture, last slightly angular; aperture ovate.

PENNANT. Brit. Zool. Ed. 4, Vol. IV. p. 132.

Rissoa subumbilicata, Berkeley.

Rissoa Barlei, Jeffreys.

Hab. British coasts.

Species 28. (Mus. Sowerby.)

RISSEA SEMISTRIGATA. *Ris. (Cingula) parvâ, fulvâ, maculâ in scribus, tribus castaneis, subquadratâ cinctâ; spiraliter striatâ; unfractibus quinque, planiusculis; ultimo magno, superioribus larvâs, aperturâ subtriangulâ.*

THE HALF-STRIGATED RISSEA. Shell small, fulvous, banded with rather square chestnut spots in three rows; spirally striated; whorls five, rather flat, last large; upper smooth; aperture nearly trigonal.

MONTAGU. Testacea Britannica, Supp. p. 136.

Rissoa pulchra, Johnson.

Rissoa tristriata, Thompson.

Rissoa subsulcata, Philippi.

Hab. Britain.

Species 29. (Mus. Marrat.)

RISSEA COSTULATA. *Ris. testâ falcâ, subconicâ, costis maguis, distantibus, angulatis armatâ, spiraliter striatâ; spiri acuminatâ, unfractibus sex, elevatis, angulatis; aperturâ subrotundâ, margine crasso.*

THE RIBBED RISSEA. Shell fulvous, rather conical, armed with large, distant, angular ribs; spirally striated, spire acuminated; whorls six, elevated, angular; aperture rather rounded, margin thick.

ALDER. As of Risso, Ann. Nat. Hist.

Rissoa similis, Scacchi Cat. p. 14, 2.

Rissoa Guernii, Rev. Zool. Cuv. 1843, p. 7.

Hab. Britain, France.



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36 a.



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36 b.



38.

RISSOA.

PLATE IV.

Species 30. (Mus. Sowerby.)

RISSOA FORTIS.—*Ris. (Rissoina) testū albida, crassā, angustā, elevatā, medio tumidiñsculda, costis rectis, crebris, levibus, sculptā; anfractibus septem, altis, planulatis; apice acuto; aperturā parvā, obliquā, angustā, infrā canaliculatā; labio interno crasso, expanso.*

THE STRONG RISSOA. Shell whitish, thick, narrow, raised, rather tumid in the middle, sculptured, with straight, close, smooth ribs; whorls seven, high, flattened; apex sharp; aperture small, oblique, narrow, channelled below; outer lip thick, spread.

C. B. ADAMS.

Hab. Jamaica.

Species 31. (Mus. —?)

RISSOA MACULATA. *Ris. testū minutā, subtrochiformi, levigatā, fulvā; anfractibus sex, rotundis, ultimo maculis subarcuatis versus suturam, subquadratis infrā, et fasciā spirali castaneis pictā; aperturā majusculā, labio interno reflexo.*

THE SPOTTED RISSOA. Shell minute, subtrochiform, smooth, brown; whorls six, rounded, the last painted near the suture with spots slightly curved, below rather square, and a spiral band of chestnut; aperture rather large, inner lip reflected.

SOWERBY. Index of British Shells, as of an unnamed authority.

Rissoa inconspicua, var. *auctorum*.

Hab. Britain.

The pattern of colouring is so distinct that it may justify specific designation.

Species 32. (Mus. Marrat.)

RISSOA CRENULATA. *Ris. testū albā, brevi, turritā, quadratum cancellatā; anfractibus supernè prope suturam angulatis, penultimo ventricoso, ultimo magno; aperturā ovatā, margine externo crenulato.*

THE CRENULATED RISSOA. Shell white, short, tur-

reted, cancellated in squares; whorls angular above near the suture, penultimate ventricose, last large; aperture ovate, outer margin crenulated.

MICHAUD. Nouvelles Espèces de Rissoa, p. 15, f. 1, 2.
Turbo cancellatus, Da Costa.

Turbo cimex, Donovan, &c., non Linnaeus.

Hab. Britain and Channel Islands.

Cancellations broad, but not so much so as those of *Zetlandica*.

Species 33. (Mus. Marrat.)

RISSOA RUFILABRIS. *Ris. (Alcancia) testū trochiformi, fulvā, ad suturam rufolinctatā; anfractibus angulatis, supra angulum distanter, leviter costatis; apice acuminato; aperturā subtrigonā, margine rubro vel violaceo.*

THE RED-LIPPED RISSOA. Shell trochiform, fulvous, with a red line at the suture; whorls angular, distantly, slightly ribbed above the angle; apex acuminate; aperture rather trigonal, margin red or violet.

LEACH. (*Alvania*) Alder. Ann. Nat. Hist. Vol. XIII. p. 325.

Rissoa hyalina, Desmoulin.

Rissoa lilacina, Recluz.

Hab. Europe.

Species 34. (Mus. Hanley.)

RISSOA INCONSPICUA. *Ris. (Cingula) testū conicā, elevatā, albida, longitudinaliter costatā, inter costas tenuissimè striatā; anfractibus sex, lateraliter sub-compressis; apice obtuso; ultimo anfractu infrā levigatā; aperturā magnā; columellā rectiñsculā.*

THE INCONSPICUOUS RISSOA. Shell conical, raised, whitish, longitudinally ribbed, very finely striated between the ribs; whorls six, rather compressed at the sides; apex obtuse; last whorl smooth below; aperture large; columella rather straight.

ALDER. Ann. and Mag. of Nat. Hist. Vol. XIII. p. 323, Pl. VIII. f. 6, 7.

Hab. Britain.

Species 35. (Mus. Marrat.)

RISSOA PUNCTURA. *Ris. (Cingula) testâ ventricosâ, fulvâ, subconicâ, spiraliter puncturato-striatâ; anfractibus quinque, rotundis, supra infrâque maculis linearibus castaneis pictis; aperturâ subrotundâ.*

THE PUNCTURED RISSOA. Shell ventricose, fulvous, rather conical, spirally striated in punctures; whorls five, rounded, painted above and beneath with linear chestnut spots; aperture rather rounded.

MONTAGU. Testacea Britannica, Vol. II. p. 320, Pl. XII. f. 5.

Rissoa puncturata, Macgillivray.

Rissoa approximata, Brown.

Hab. British coasts.

Species 36. (Fig. a, b, Mus. Marrat.)

RISSOA PARVA. *Ris. testâ conicâ, lœvi, fulvâ, acuminatâ, altâ; anfractibus rotundis, brevibus, lineis maculâisque castaneis, frequenter curvis plerumque pictis; aperturâ subquadratâ, columellâ rectiâculâ.*

THE SMALL RISSOA. Shell conical, smooth, fulvous, acuminate, raised; whorls rounded, short, generally painted with chestnut lines and spots, frequently curved; aperture subquadrate, columella rather straight.

MATON and RACKET. Act. Linn. Soc. VIII. p. 171.

Rissoa sublutea, Adams.

Rissoa interrupta, Johnson.

Rissoa lactea, Donovan.

Hab. British coasts and Channel.

Species 37. (Mus. Hanley.)

RISSOA BEANII. *Ris. (Alvania) testâ subconicâ, fuscâ, supernè leviter costatâ, omnino spiraliter striatâ, striis ad costas crenulatis; spirâ acuminatâ; anfractibus sex, convexiâculis, ultimo breviâculis, aperturâ subovatâ, margine distincto, albo; labio externo albo.*

BEAN'S RISSOA. Shell rather conical, brown, slightly ribbed above, spirally striated all over, striae crenulated at the ribs; spire acuminated; whorls six, rather convex, last rather short; aperture rather oval, margin distinct, white; outer lip white.

HANLEY. Forbes and Hanley, British Mollusca, III. Pl. LXXVIII. f. 1.

Hab. Great Britain and Ireland.

Species 38. (Mus. —? Copied.)

RISSOA SUPRACOSTATA. *Ris. testâ brevi, pallidâ, ventricosâ; anfractibus quinque, rotundis, superioribus acutâ costatis, inter costas striatis; ultimo magno, levigatâ; spirâ acutâ, subroseâ; aperturâ magnâ, subovatâ.*

THE UPPER-RIBBED RISSOA. Shell short, pale, ventricose; whorls five, rounded, upper sharply ribbed, striated between the ribs, last large, smooth; spire sharp, rather rose-coloured; aperture large, subovate.

—?

Hab. Britain.

This shell is evidently a somewhat abnormal form, but not of *R. parva*. Some author, however, having named it, it is here admitted, as it cannot be identified with any known species.





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I

I

RISSOA.

PLATE V.

Fig. 10 b.

RISSOA CALATHISCUS, var. (See Pl. I.)

Species 39. (Mus. Sowb.)

RISSOA CALATHUS. *Ris. (Alvania) testā subconicā, pallidā, semipellucidā, costis longitudinalibus, subistantibus, subdepressis, et liris spiralibus magis approximatis, interstītiis profundè foecolatis, cancellatā; anfractibus quinque convexisculis; aperturā subovatā; labio extero crasso, intus crenato.*

THE BASKET RISSOA. Shell rather conical, pale, semi-pellucid, cancellated with rather distant, rather depressed longitudinal ribs and rather nearer spiral ridges, with deeply-pitted interstices; whorls five, rather convex; aperture rather ovate, outer lip thick, crenated within.

FORBES and HANLEY. British Mollusca, Vol. III. p. 80.

Hab. British coasts and Europe generally.

Species 40. (Mus. Sowerby.)

RISSOA STRIATA. *Ris. (Anoba) testā albidiā, elongatā, tenuiter spiraliter striatā; anfractibus sex, convexis, elevatis, supernè ad suturam crenulatis, ultimo brevi; aperturā parvā, labio extero extis varicoso, margine incrassato, subcrenulato.*

THE STRIATED RISSOA. Shell whitish, elongated, finely striated spirally; whorls six, convex, raised, crenulated above at the suture, last short; aperture small, outer lip varicose without, margin thickened and slightly crenulated.

MONTAGU. (Turbo) Test. Brit. Vol. II. p. 326, Pl. XIII. f. 25, 26.

Rissoa minutissima, Michand.

Rissoa communis, Forbes.

Rissoa gracilis, Macgillivray.

Hab. Britain.

Species 41. (Mus. Marrat.)

RISSOA VENTROSA. *Ris. testā subrīdi, fulvescenti, pyramidatā, spirā elevatā; anfractibus quinque, lateraliter compressis, ultimo rotundo, ferè umbilicato, aperturā subovatā, margine acuto.*

THE INFLATED RISSOA. Shell rather greenish-buff, pyramidal, spire elevated; whorls five, laterally compressed, last round, nearly umbilicated; aperture rather oval, margin acute.

MONTAGU. (Turbo) Test. Brit. II. p. 317, Pl. XII. f. 13.

Rissoa acuta, Draparnaud.

Turbo ventricosus, Dillwyn.

Hab. Great Britain, France.

Species 42. (Mus. late Deshayes.)

RISSOA ROSEA. *Ris. testā solidā, rosā, spirā elevatā, anfractibus septem, moderatè convexis, longitudinaliter costatis, costis regularibus, solidis, læribus, rectiūsculis, interstītiis œquantibus; aperturā auriformi, columellā leviter uniplatetā, labio extero crasso, rotundo.*

THE PINK RISSOA. Shell solid, pink, spire elevated; whorls seven, moderately convex, longitudinally ribbed, ribs regular, solid, smooth, rather straight, equalling the interstices; aperture auriform, columella slightly single-plaited, outer lip thick, rounded.

RISSOA.—PLATE V.

DESHAYES. Conch. Ile de la Réunion, p. 61, Pl. VII.

f. 29.

Hab. Isle of Bourbon.

Species 43. (Mus. late Deshayes.)

RISSOA INSOLITA. *Ris. (Alvania ?) testā minimā, candidā, elongato-turritā, apice obtusiūsculā; anfractibus septenis, costis duabus inaequalibus proeminentibus cinctis, majore prope suturam positā, eleganter granoso-crenulatā; ultimo anfractu breviūsculo, transversim quadricostato; aperturā minimā, ovatā, angustā.*

THE EXTRAORDINARY RISSOA. Shell very small, white, elongate-turreted, apex rather obtuse; whorls seven, girt with two unequal prominent ribs, the larger placed near the suture, elegantly granularly crenulated, last whorl rather short, transversely four-ribbed; aperture very small, oval, narrow.

DESHAYES. Conch. Ile de la Réunion, p. 63, Pl. XIII.
f. 15, 16.

Hab. Isl. Bourbon.

Species 44. (f, a, b, Mus. Crosse ?)

RISSOA GENTILISSIANA. *Ris. (Hydrobia) testā parvā, pallidè fulvā, lāvi, ovatā, apice obtuso; anfractibus quatuor, convexiūsculis, ultimo elongato, inflato, subsoluto; aperturā disjunctā, obliquè ovatā, operculo fuscō.*

THE FAMILY-RELATION RISSOA. Shell small, pale fulvous, smooth, with obtuse apex; whorls four, rather convex, last elongated, inflated, a little uncoiled; aperture disjoined, obliquely ovate.

CROSSE. Journ. de Conch. Vol. XXII. p. 112, 1874.

Hab. New Caledonia.

Mr. Crosse remarks that this is the second of the same genus found in the locality.

Species 45. (Mus. Souverbie ?)

RISSOA FIMBRIATA. *Ris. (Rissoina) testā albidiā, turritā, altissimā, lāvi, apice obtuso; anfractibus octo,*

lateraliter compressis, distanter longitudinaliter costatis, propè suturam subangulatis; apertura obliquè ovatā, columellā duplicitā, labio externo duplicitato, fimbriato.

THE FRINGED RISSOA. Shell whitish, turreted, very high, smooth, with blunt apex; whorls eight, laterally compressed, distantly longitudinally ribbed; with a slight angle near the suture; aperture obliquely ovate, columella doubled, outer lip doubled, fringed.

SOUVERBIE. Journ. de Conch. p. 52, 1872.

Hab. New Caledonia.

Species 46. (Mus. Souverbie ?)

RISSOA INCERTA. *Ris. (Rissoina) testā fuscā, solidā, altā, turritā, spirā elevatā, apice obtuso; anfractibus octo, ad suturam angulatis, costatis, costis ad spiram continuis, distantibus, rotundis, ad medium ultimi anfractūs discontinuis; aperturā obliquè ovatā, columellā arenatā.*

THE UNCERTAIN RISSOA. Shell brown, solid, elevated, turreted, spire raised, with obtuse apex; whorls eight, angular at the suture, ribbed, ribs continued at the spire, distant, rounded, discontinued at the middle of the last whorl; aperture obliquely ovate.

SOUVERBIE. Journ. de Conch. 1872, p. 33, Pl. I. f. 4.

Hab. Ins. Arl. New Caledonia.

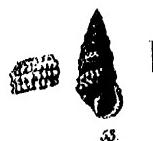
Species 47. (Mus. Marrat.)

RISSOA PULCHERRIMA. *Ris. (setia) testā minutā, brevi, globosā, levā, subumbilicatā, in seriebus tribus maculis rubro-fuscis quadratis ornata; anfractibus quatuor, rotundis, ultimo magno, ventricoso; aperturā rotundatā, margine simplici.*

THE VERY PRETTY RISSOA. Shell minute, short, globose, smooth, slightly umbilicated, ornamented with red-brown square spots in three rows; whorls four, rounded, last large, ventricose; aperture round, margin simple.

JEFFREYS. Ann. Nat. Hist. Vol. II. p. 351.

Hab. Channel Islands.



RISSOA.

PLATE VI.

Fig. 1 b, *Rissoa denticulata*. See Plate I.

Species 48. (Mus. Sowerby.)

RISSOA SOLUTA. *Ris. (Setia) testā minutā, ovatā, albā, spiraliter striatā; anfractibus tribus, brevibus, rotundis, ultimo ventricoso, subsoluto, umbilicato; aperturā rotundā, labio externo rectiunculo.*

THE LOOSE-COILED RISSOA. Shell very small, oval, white, spirally striated; whorls three, short, round, last ventricose, a little uncoiled, umbilicated; aperture round, outer lip rather straight.

PHILIPPI. Moll. Sic. Vol. II. p. 130, Pl. XXIII. f. 18.
Hab. Britain.

Species 49. (Mus. Jeffreys.)

RISSOA ALDERI. *Ris. (Setia) testā minutā, pallidā, fulvā, laevi, subovatā; anfractibus quinque, rotundis, elevatis, ultimo ventricoso, subumbilicato; aperturā subovatā, labio externo tenui, columellā rectiunculā.*

ALDER'S RISSOA. Shell minute, pale, fulvous, smooth, rather oval; whorls five, rounded, elevated, last ventricose, slightly umbilicated; aperture rather oval, outer lip thin, columella rather straight.

JEFFREYS. Ann. and Mag. of Nat. Hist. August, 1858.
Hab. North Britain.

Species 50. (Mus. Sowerby.)

RISSOA FULGIDA. *Ris. (Setia) testā minutā, fulvā, laevi, nitenti, castaneo spiraliter bifasciatā, spirā brevi, obtusa; anfractibus tribus, rotundis; aperturā rotundā, margine tenui.*

THE BRIGHT RISSOA. Shell minute, fulvous, smooth, shining, with two chestnut spiral bands, spire short, obtuse; whorls three, rounded; aperture rounded, margin thin.

ADAMS. Trans. Linn. Soc. Vol. III. p. 254.
Hab. Britain and Ireland.

Species 51. (Mus. Brit.)

RISSOA ANATINA. *Ris. (Hydrobia) testā minutā, subiridi, tenui, orato-subglobosā, spirā brevi, apice acuto: anfractibus quinque, rapidē crescentibus, distinctis, prope suturam angulatis, ultimo subgloboso, suturā canaliculatā; aperturā subrotundā, margine tenui.*

THE DUCK'S RISSOA. Shell small, rather green, thin, ovato-subglobose, spire short, apex acute; whorls five, rapidly increased, distinct, angular near the suture, last subglobose, suture channelled; aperture rather round, margin thin.

DRAPARNAUD. Moll. Terr. et Fluv. de France, p. 37.
Pl. I. f. 24, 25.

Hab. France, England.

Species 52. (Mus. Jeffreys.)

RISSOA EXIMIA. *Ris. testā albidā, minutissimā, subovatā, longitudinaliter costatis, costis distantibus, incisis, in medio anfractum costis spiralibus tribus decussatis, interstitiis excavatis; anfractibus quatuor, infra biangulatis, suturā profundiā; aperturā subrotundā, margine acuto.*

THE NOTABLE RISSOA. Shell whitish, very small, somewhat ovate, longitudinally ribbed, ribs distant, incised, decussated by three spiral ribs in the middle of each whorl; interstices excavated; whorls four, biangular below, suture deep; aperture rather round, margin sharp.

JEFFREYS. Sowerby's Illustrated Index of Brit. Sp. Chemnitzia Barleei, Clark.
Hab. Britain.

Species 53. (Mus. Sowerby.)

RISSOA NITIDA. *Ris. (Rissoina) testā albā, solidā, elatiā, spirā elongatā, medio subinflatā, apice acuminato; anfractibus octo, convexis, spiraliter et longitudinaliter costatis, costis ad angulos nodosis; aperturā*

RISSOA.—PLATE VI.

parrū, anticē canaliculatā, columellā brevi, crassū, labio externo crasso, anticē producto.

THE NEAT RISSOA. Shell white, solid, raised, spire elongated, rather swelled in the middle, apex acuminated; whorls eight, convex, spirally and longitudinally ribbed, ribs nodose at the angles; aperture small, anteriorly channelled, columella short, thick, outer lip thick, anteriorly produced.

A. ADAMS. Proc. Zool. Soc. 1851, p. 266.

Hab. Philippines.

Species 54. (Mus. Sowerby.)

RISSEA RUBRA. *Ris. (Barleia) testū conicā, fuscā, solidā, politā; anfractibus quatuor, convexiūsculis, ultimo infra medium subangulato; aperturā subtrigonā, magnā, columellā rectiūsculā.*

THE RED RISSOA. Shell conical, brown, solid, polished; whorls four, rather convex, last rather angular below the middle; aperture subtrigonal, large, columella rather straight.

ADAMS. Trans. Linn. Soc. Vol. III. Pl. XIII. f. 15.

Rissoa unifasciata, Montagu.

Hab. Britain, Mediterranean.

Species 55. (Mus. Marrat.)

RISSEA FULVA. *Ris. (Barleia ?) testū conicā, elevatā, solidā, fuscā, latē fasciatā, politā; anfractibus*

quinque, lateraliter compressis, ultimo angulato; aperturā subtrigonā.

THE FULVOUS RISSOA. Shell conical, raised, solid, brown, broadly banded, polished; whorls five, laterally compressed, last angular; aperture subtrigonal.

MICHAUD. Nony. Esp. de Rissoa, p. 15, f. 17, 18.

Hab. Adriatic.

Species 56. (Mus. Marrat.)

RISSEA CREBRISULCATA. *Ris. (Rissoina) testū elongato-ovatā, scabriā, costis longitudinalibus subobliquis, validis, nodosis, et liris tenuibus spiralibus cancellatā; anfractibus octo, convexiūsculis; aperturā infrā canaliculatā; aperturā parvā, ovalā columellā crassā, brevi, labio externo crasso, extus crenato.*

THE CLOSE-GROOVED RISSOA. Shell elongated-ovate, scabrous, cancellated with rather oblique, strong, nodulous, longitudinal ribs; whorls eight, rather convex; aperture channelled below, aperture small, ovate; columella thick, short, outer lip thick, crenulated outside.

SOWERBY.

Hab. —?

This beautifully sculptured little shell when received was labelled 'R. canaliculata Ad.', but being afterwards found not to agree with the specimen in the British Museum, we have had to give another name to it.



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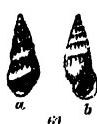
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RISSOA.

PLATE VII.

Species 57. (Mus. Paris.)

RISSOA MOHRENSTERNI. *Ris. (Rissoina) testū minimū, albā, ovato-pyramidalē, apice acuto; anfractibus septem, convexiūsculis, longitudinaliter costellatis, striis spiralibus decussatis; ultimo anfractu magno, ventricoso, subovato; aperturā semilunari, labio externo crasso, anticē producto.*

MOHRENSTERN'S RISSOA. Shell very small, white, ovately pyramidal, with acute apex; whorls seven, rather convex, longitudinally ribbed, decussated with spiral striae; last whorl large, ventricose, subovate; aperture semilunar, outer lip thick, anteriorly produced.

DESHAYES. Conchyliologie de l'Ile de la Réunion, p. 62.

Hab. Ile Bourbon.

Species 58. (Mus. Brit.)

RISSOA SEMIGLABRATA. *Ris. (Rissoina) testū pyriformi, solidā, acuminatā, anfractibus septem, convexiūsculis, superioribus curvicostatis, penultimo et antepenultimo costellis indistinctis spiralibus et striis minutissimis longitudinalibus decussatis, ultimo subgloboso, polito, aperturā pyriformi, labio externo crasso, dentibus transversis tribus vel quatuor munito.*

THE HALF-POLISHED RISSOA. Shell pyriform, solid, acuminate, whorls seven, rather convex, the upper with curved ribs, two before the last decussated with indistinct spiral ribs and very minute longitudinal striae, last rather globose, polished, aperture pyriform, outer lip thick, provided with three or four teeth.

A. ADAMS. Proc. Zool. Soc. 1851, p. 279.

Hab. Isl. Zebu, Philippines.

Species 59. (Mus. Brit.)

RISSOA CRASSILABRUM. *Ris. (Rissoa) testū brevi, conicā, lacteā, politā, solidā, anfractibus sex, planulatis, apice acuminato; aperturā pyriformi,*

angustiā, labio externo crasso, planulato, antici tridentato, columellā latā.

THE THICK-LIPPED RISSOA. Shell short, conical, milk-white, polished, solid, whorls six, flattened, apex acuminate; aperture pyriform, narrow, outer lip thick, flattened, anteriorly tridentate, columella broad.

PEASE. Proc. Zool. Soc.

Hab. California.

A curious little shell with three strong teeth across its broad, thick, outer lip.

Species 60. (Mus. Brit.)

RISSOA CANALICULATA. *Ris. (Rissoina) testū solidū, pyramidati, pallidissimè fulvā, anfractibus septem, convexiūsculis, costatis; costis distantibas, levibus, medio flexuosis, ad costam spiralem basalem terminantibus; ultimo anfractu infrā bicostato; aperturā pyriformi, labio externo crasso.*

THE CHANNELLED RISSOA. Shell solid, pyramidal, very pale fulvous; whorls seven, rather convex, ribbed; ribs distant, smooth, flexuous in the middle, ending at the base, last whorl double ribbed beneath; aperture pyriform, outer lip thick.

SCHWARTZ. Monograph of Rissoinæ.

Hab. Philippines.

Species 61. (Mus. Brit.)

RISSOA INSIGNIS. *Ris. (Rissoina) testū brevi, solidū, supernè albā, infrā subnudū; anfractibus quinque superioribus latis, quadratis, prope suturam rectangularis, costatis, subdecussatis, ultimo rotundo, subgloboso; aperturā subovati, labio externo crasso, rotundo, denticulato, columellā crassā.*

THE WONDERFUL RISSOA. Shell short, solid, white above, rather golden below; whorls five, upper broad, square, rectangular near the suture, ribbed, slightly decussated, last round, subglobose; aperture subovate; outer lip thick, round, denticulated, columella thick.

ADAMS and REEVE. Voy. Samarang.

Hab. —?

RISSOA.—PLATE VII.

Species 62. (Mus. Brit.)

RISSOA DESHAYESIANA. *Ris. (Rissoina) testâ albâ, pyramidalâ, costis longitudinalibus nodosis et striis spiralibus tenuiter reticulatâ; anfractibus septem, convexiñsculis; aperturâ semiovatâ, columellâ brevi, crassâ, labio externo crasso, crenulato.*

DESHAYES'S RISSOA. Shell white, pyramidal, finely reticulated with longitudinal nodose ribs and spiral striae; whorls seven, rather convex; aperture semiovate, columella short, thick, outer lip thick, crenulated.

RECLUS. Revue Zoologique.

Hab. —?

Species 63. (Mus. Brit.)

RISSOA DEFORMIS. *Ris. (Rissoina) testâ albâ, elongatâ, solidiusculâ, altissimâ; anfractibus novem, irregulariter convolutis, inæqualiter convexis, superioribus sculptis, inferioribus lærigatis, aperturâ subtrigonâ, productâ; labio externo crasso.*

THE DEFORMED RISSOA. Shell white, long, rather solid, much elevated; whorls nine, irregularly wound, unequally curved, upper sculptured, lower smooth, aperture subtrigonal, produced; outer lip thick.

SOWERBY. Genera of Shells.

Hab. Philippines.

Species 64. (Fig. a, b, c, d, Mus. Brit.)

RISSOA VARIEGATA. *Ris. (Rissoina) testâ subcylindrica, albâ, vel maculis vel fasciis variè pictâ; anfractibus rectiusculis, supernè ad suturam crenulatis, ultimo majuscule, apice acuminato, aperturâ semi-ovatâ, columellâ brevi, acuminatâ.*

THE VARIEGATED RISSOA. Shell rather cylindrical, white, or variously painted with spots or bands; whorls rather straight, crenulated above at the suture, last rather large; apex acuminated, aperture semiovate, columella short, acuminated.

ANGUS. Proc. Zool. Soc. 1867, p. 113.

Hab. Port Jackson.

Species 65. (Mus. Brit.)

RISSOA STRIOLATA. *Ris. (Rissoina) testâ elevatâ, tenui, tenuiter striatâ, albâ, apice acuminato; anfractibus novem, rectiusculis, medianis latis, superioribus attenuatis; ultimo subangustato; aperturâ auriformi, columellâ infrâ acuminatâ; labio externo subincrassato.*

THE FINE-STRIATED RISSOA. Shell raised, thin, finely striated, white, apex acuminated; whorls nine, rather straight, middle broad, upper attenuated, last rather narrow; aperture ear-shaped, columella acuminated below; outer lip rather thickened.

A. ADAMS. Proc. Zool. Soc. 1851, p. 206.

Hab. Baclayon, Isl. Bohol, Philippines.

In some degree resembling *Rissoina spirata*, but the whorls not angular.



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RISSOA.

PLATE VIII.

Species 66. (Mus. Brit.)

RISSOA PYRAMIDALIS. *Ris. (Rissoina) testâ subpupa-formi, pallidè fulvâ, subventricosâ, obtusiùsculâ; anfractibus sex, breviùsculis, costis eleganter flexuosis, longitudinalibus lœvibus liratâ; aperturâ subauriformi, labio externo crasso, columellâ subplicatâ.*

THE PYRAMIDAL RISSOA. Shell somewhat pupa-shaped, pale fulvous, rather ventricose, rather obtuse; whorls six, rather short, ridged with elegantly flexuous longitudinal ribs; aperture somewhat ear-shaped, outer lip thick, columella with a very slight plait.

A. ADAMS. Proc. Zool. Soc. 1851, p. 265.
Hab. Baclayon, Isl. Bohol, Philippines.

Species 67. (Mus. Brit.)

RISSOA MEMBRANACEA. *Ris. testâ tenui, cornéâ, altissimâ; anfractibus septem, lateraliter subcompresso, apicalibus attenuatis, ultimo brevi; aperturâ auriformi, anticè expansâ, subretrospâ, columellâ subflexuosa, brevi, labio externo expanso.*

THE MEMBRANOUS RISSOA. Shell thin, horny, very elevated; whorls seven, laterally subcompressed, apical attenuated, last short; aperture ear-shaped, anteriorly expanded, rather inclined backwards, columella rather flexuous, short, outer lip expanded.

LÖVEN — ?

Rissoa labiosa var. Auct.

Hab. Black Sea and Mediterranean.

The more elevated varieties of *Rissoa labiosa* do not seem to approach the slender form and light texture of this species.

Species 68. (Mus. Brit.)

RISSOA SMITHII. *Ris. (Rissoina) testâ albi, parvâ, solidâ, pyramidatâ; anfractibus septem, convexis,*

costatis, costis longitudinalibus, leviter arcuatis, intersticiis spiraliter striatis, ultimo anfractu infra spiraliter costatâ; aperturâ subtrigonâ, labio externo crasso, columellâ crassâ, obtusè uniplicatâ.

SMITH'S RISSOA. Shell white, small, solid, pyramidal; whorls seven, convex, ribbed, longitudinal ribs, slightly curved, interstices spirally striated, last whorl spirally ribbed below; aperture somewhat trigonal, outer lip thick, columella thick, with a blunt plait.

ANGUS. Proc. Zool. Soc. 1867, p. 114.

Hab. Port Jackson, Australia.

Species 69. (Mus. Brit.)

RISSOA TURCULA. *Ris. (Rissoina) testâ rubrofuscâ, parvâ, solidâ, pyramidatâ, acuminatâ; anfractibus octo, prominentibus, supra medium subangulatis, costatis, costis paucis medio subangulatis, intersticiis tenuissimè striatis; aperturâ semilunari, labio externo crasso, columellâ crassâ, brevi.*

THE LITTLE TURRET RISSOA. Shell red-brown, small, solid, pyramidal, acuminate; whorls eight, prominent, rather angular above the middle, with interstices very finely striated; aperture semi-lunar, outer lip thick, columella very thick, short.

ANGUS. Proc. Zool. Soc.

Hab. New South Wales.

The whorls are more prominent than those of *Rissoa Smithii*, and, with the ribs, more angular.

Species 70. (Mus. Brit.)

RISSOA CRASSA. *Ris. (Rissoina) testâ solidâ, rubrofulvâ, brevi, obtusâ; anfractibus septem, brevibus, lateraliter subcompressis, longitudinaliter costatis, costis leviter arcuatis, ultimo anfractu infra levigato; aperturâ rectiùsculâ, columellâ crassâ, brevi.*

THE THICK RISSOA. Shell solid, red fulvous, short, obtuse; whorls seven, short, laterally rather

RISSOA.—PLATE VIII.

compressed, longitudinally ribbed, ribs slightly arched, last whorl smooth below; aperture rather straight, columella thick, short.

ANGUS. MS. Brit. Mus.

Hab. Port Jackson.

Species 71. (Mus. Brit.)

RISSOA CINCTA. *Ris. (Rissoina) testā parvā, albā, altd, tenuiter interruptim castaneo-fasciatā; anfractibus septem, convexiūsculis, costatis, costis eleganter flexuosis, intersticiis striatis, ultimo anfractu brevi, rotundo, subreticulato.*

THE BELTED RISSOA. Shell small, white, high, finely interruptedly banded with chestnut; whorls seven, rather convex, ribbed, ribs elegantly flexuous, interstices striated, last whorl short, rounded, rather reticulated.

ANGUS. Proc. Zool. Soc. 1867, p. 114.

Hab. Port Jackson.

Species 72. (Mus. Brit.)

RISSOA NODICINTA. *Ris. (Rissoina) testā albā, solidi, pyramidatā, acuminatā; anfractibus octo, costellis spiralibus et longitudinalibus regulariter ad angulo nodosis ornatis; aperturā semi-ovatā, labio externo crasso, intis crenulato.*

THE BEAD-BELTED RISSOA. Shell white, solid, pyramidal, acuminate; whorls eight, ornamented with spiral and longitudinal ribs, regularly nodose at the angles; aperture semi-ovate, outer lip thick, crenulated within.

A. ADAMS. Proc. Zool. Soc. 1851, p. 266.

Hab. Isl. Capul, Philippines.

Species 73. (Mus. Brit.)

RISSOA MONODONTA. *Ris. (Rissoina) testā brevi, crassā, lilacina et albā, subpyriformi; anfractibus*

quinq, brevibus, ultimo subovato; apertura ovata, labio externo crasso, subplanulato, columelli brevi, unidentatū.

THE SINGLE-TOOTHED RISSOA. Shell short, thick, lilac and white, rather pyriform; whorls five, short, last rather oval; aperture ovate, outer lip thick, rather flattened, columella short, with a single tooth.

BIVON. MS. Mus. Brit.

Hab. —?

Species 74. (Mus. Sowerby.)

RISSOA VIOLEACEA. *Ris. testā parvā, crassā, breviter pyramidatā, infrā aureo-fulvā, medio violacei; anfractibus quinq, supernā albī, infrā castaneo latè fasciatī; aperturā subtrigonā; marginē crasso.*

THE VIOLET RISSOA. Shell small, thick, shortly pyramidal, golden brown below, violet in the middle; whorls five, white above, broadly banded with chestnut below; aperture subtrigonal, margin thick.

DESMAREST. — ?

Hab. Nice.

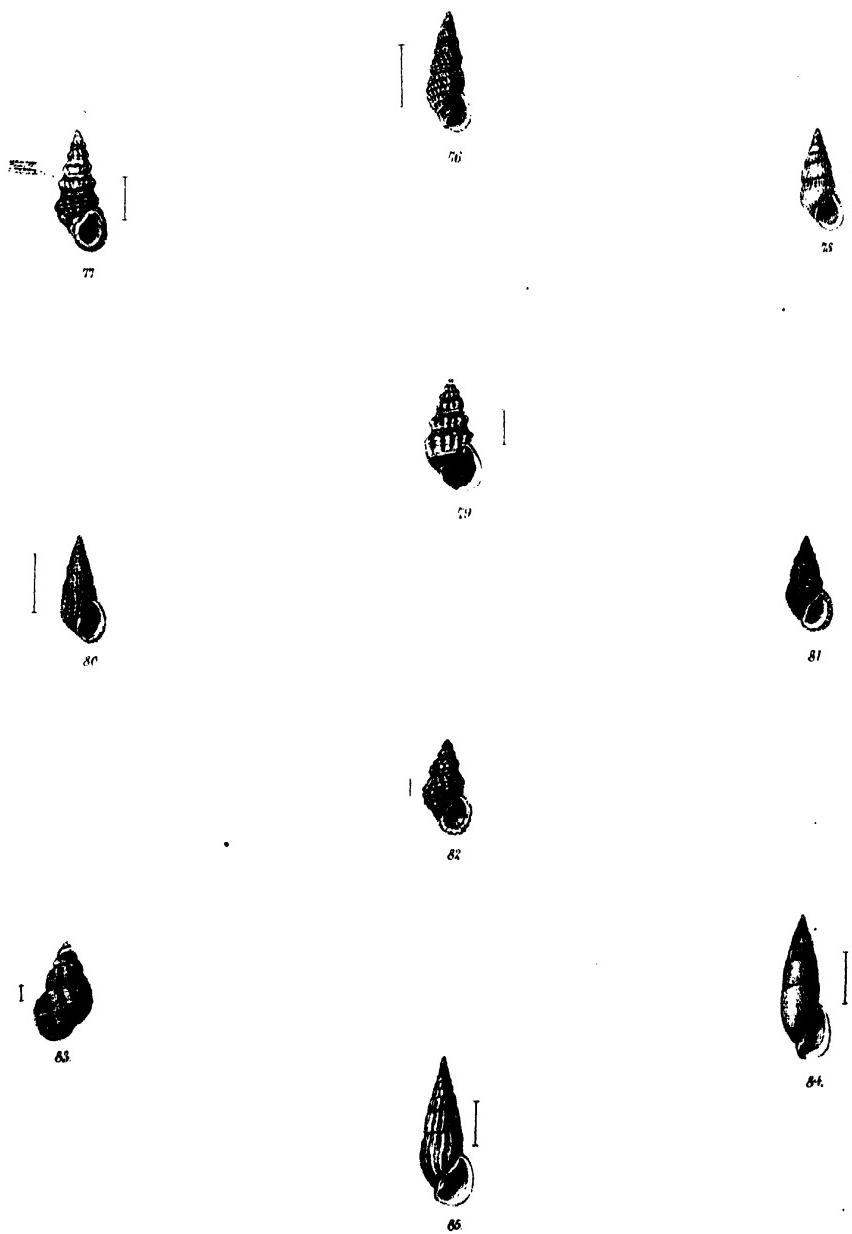
Species 75. (Mus. Sowerby.)

RISSOA RETICULATA. *Ris. (Rissoina) testā albā, pyramidato, tenui, acuminatā; anfractibus novem, costis tenuissimis, eleganter flexuosis, longitudinalibus et striis spiralibus reticulatis; aperturā subpyriformi, labio externo crasso, anticè producto, columellā brevi, infrā acuminatā.*

THE RETICULATED RISSOA. Shell white, pyramidal, thin, acuminate; whorls nine, reticulated with elegantly flexuous longitudinal ribs and spiral striae; aperture subpyriform, outer lip thick, anteriorly produced, columella short, acuminate below.

SOWERBY. Genera of Shells.

Hab. Isl. St. Thomas, West Indies.



RISSOA.

PLATE IX.

Species 76. (Mus. Sowerby.)

RISSOA CLATHRATA. *Ris. (Rissoina) testa albida, elata, solidâ, costis spiralibus supra suturam quinque et longitudinalibus paulò magis numerosis ad angulos nodosis clathratis; interstîtia profunda foreolatis; anfractibus altis, convexisculis, ultimo unisulcato et varicoso; aperturâ pyriformi, labio extero anticè producto; columellâ brevi, crassâ.*

THE LATTICED RISSOA. Shell whitish, elevated, solid, latticed with five spiral ribs above the suture, and rather more numerous longitudinal ones, nodose at the angles; interstices deeply pitted; whorls elevated, rather convex, the last with a groove and spiral varices behind the columella; aperture pyriform, outer lip anteriorly produced, columella short, thick.

A. ADAMS. Proc. Zool. Soc. 1851, p. 265.

Hab. Isl. Bohol, Philippines.

A beautiful broadly-sculptured species.

Species 77. (Fig. a, b, c, d, Mus. Brit.)

RISSOA VARIABILIS. *Ris. testa subfusiformi, acuminatâ, tenuiter spiraliter fusco, punctato-lineatâ, et striatâ; anfractibus octo, elevatis, tribus apicalibus levibus, alteris medio angulatis, costatis, costis medio prominentibus; aperturâ declivâ, suboratâ, margine expanso, lilacinâ, extâ intusque incrassato.*

THE VARIABLE RISSOA. Shell rather fusiform, acuminate, finely spirally brown spot-lined and striated; whorls eight, elevated, three apical smooth, the others angular in the middle; aperture sloped, rather oval, margin expanded, lilac, thickened within and without.

MUHLEFELDT —?

Hab. —?

Species 78. (Mus. Sowerby.)

RISSOA DECUSSETA. *Ris. (Rissoina) testa alba, solidâ, altâ, tenuissimè costellis obliquis longitudinalibus et spiralibus minutis decussatâ, apice obtuso; anfractibus sex, infra medium convexisculis; aper-*

turâ subpyriformi; columellâ brevi, attenuatâ, labio externo prominenti, crasso.

THE DECUSSATED RISSOA. Shell white, solid, high, very finely decussated with oblique longitudinal ripples and spiral striae, apex obtuse; whorls six, rather convex below the middle; aperture rather pyriform, columella short, attenuated, outer lip prominent, thick.

MONTAGU. Test. Brit. Vol. II. p. 399.

Hab. West Indies.

A West Indian shell described as British by Montagu. It has a smooth, and even a polished appearance until examined with the lens, when the oblique longitudinal ribs and fine spiral striae are seen.

Species 79. (Mus. Sowerby.)

RISSOA SPLENDIDA. *Ris. testa breviter subfusiformi, fulvâ, spiraliter lineis rubris punctatis pictâ; spirâ acuminatâ; anfractibus sex, brevibus, angulatim costatis, inter et infra costas fusco fasciatâ; aperturâ brevi, labio externo intus extusque crasso violaceo marginato.*

THE SPLENDID RISSOA. Shell shortly subfusiform, fulvous, spirally painted with red punctured lines, spire acuminate; whorls six, short, angularly ribbed, banded with brown between and under the ribs; aperture short, outer lip thickened within and without, edged with violet.

EICHOU —?

Hab. Black Sea.

Shorter and more finely ribbed than *Rissoa variabilis*.

Species 80. (Mus. Sowerby.)

RISSOA SAGRAIANA. *Ris. (Rissoina) testa albâ, solidâ, altâ, pyramidatâ; anfractibus septem, costis crenatis, obliquis, transversè liratis, sculptis; aperturâ pyriformi, labio extero crassissimo, anticè producto.*

THE SAGRA RISSOA. Shell white, solid, high, pyramidal; whorls seven, sculptured with oblique crenated ribs ridged across; aperture pyriform, outer lip very thick, anteriorly produced.

D'ORBIGNY. Mollusques de Cuba.

Hab. Cuba.

Species 81. (Mus. Marrat.)

RISSOA LIGNEA. *Ris. (Alvania) testā brevi, ventricosā, solidā, fuscā, acuminatā, rubro-lineatā; anfractibus brevibus costatis, costis rotundis, crassis, crenatis; liris spiralibus tenuibus; aperturā brevi, subrotundā, columellā crassā, albā; labio externo intus incrassato; extus varicosa.*

THE WOODY RISSOA. Shell short, ventricose, solid, brown, acuminate, red-lined; whorls short, ribbed, ribs rounded, thick, crenated; spiral ridges thin; aperture short, rather round, columella thick, white; outer lip thickened within, varicose without.

THORPE. Brit. Mar. Conch.

Hab. Nice.

Species 82. (Hab. Marrat.)

RISSOA CANARIENSIS. *Ris. (Alvania) testā minutā, pallide fulvā, brevi, crassā, longitudinaliter crebricostatā, spiraliter densè lineatā; costis crassis, crenulatis; anfractibus paucis, brevibus, maculatis vel spiraliter lineatis, medio subangulatis, ultimo ventricoso; aperturā parvā, rotundā, labio externo incrassato.*

THE CANARY ISLAND RISSOA. Shell minute, pale, fulvous, short, thick, numerously longitudinally ribbed, spirally closely ridged, ribs thick, crenulated; whorls few, short, spotted or spirally lineated, rather angular in the middle, last ventricose; aperture small, rounded, outer lip thickened.

D'ORBIGNY. Watson, Proc. Zool. Soc. 1873, p. 376.

Hab. Canary Islands, Madeira.

Finer in sculpture than the other species, with crenulated ribs.

Species 83. (Mus. Marrat.)

RISSOA DEPICTA. *Ris. testā parvā, ventricosā, fulvā, tenuiter spiraliter striatā, semipellucidā, obscure seriatim maculatā; anfractibus quinque, superioribus brevissimis, ultimo rotundo, subgloboso, aperturā rotundā, labio externo crasso.*

THE FADED RISSOA. Shell small, ventricose, fulvous, finely spirally striated, semipellucid, obscurely spotted in rows; whorls five, upper ones very short, last rounded, rather globose; aperture rounded, outer lip thick.

MANZONI. (Watson) Proc. Zool. Soc. 1873, p. 383.

Hab. Madeira.

It seems more globose and less conical than *Rissoa semistriata* of Montagu.

Species 84. (Mus. Montrouzier.)

RISSOA ARTENSIS. *Ris. (Rissoina) testā elongatā, subcylindricā, subaurantiā, tenui; anfractibus novem, apicalibus septem leviter plicatis, attenuatis, prope apicem subabrupte angustatis, penultimo subcylindrico, planato, alto; ultimo cylindrico elongato; aperturā subtrigonā, subcanaliculatā; labio interno tenui, columellā brevi, labio externo producto, incrassato.*

THE ISL. OF ART RISSOA. Shell elongated, subcylindrical, rather orange, thin; whorls nine, seven apical, slightly plaited, attenuated near the apex, rather abruptly narrowed, last but one rather cylindrical, flattened, high, last cylindrical, elongated; aperture subtrigonal, with a slight canal, inner lip thin, columella short, outer lip produced, thickened.

MONTROUZIER. Journ. Conchyl. Vol. XX. p. 364, 1872.

Hab. Ile Art, New Caledonia.

Species 85. (Mus. Souverbie.)

RISSOA SUBCONCINNA. *Ris. (Rissoina) testā albā, orati, subpyramidalē, altā, longitudinaliter costatā, costis tenuibus leviter arenatis, distantibus, interstitiis levibus; anfractibus octo, lentē crescentibus, inferioribus subventricosis; aperturā subtrigonā, labio interno tenui, expanso, columellā uniplacatā, brevi, labio externo producto, expanso, infra columellam emarginato.*

THE RATHER NEAT RISSOA. Shell white, ovately subpyramidal, high, longitudinally ribbed, ribs thin, slightly arched, distant, interstices smooth; whorls eight, slowly increased, lower rather ventricose; aperture subtrigonal, inner lip thin, expanded, columella single plaited, short, outer lip produced, expanded, emarginated under the columella.

SOUVERBIE. Journ. Conchyl. Vol. XX. p. 364, 1872.

Hab. Ile Art, New Caledonia.

This shell is named as above from its resemblance to *Rissoina concinna* of A. Adams, from which it differs materially in having no cross striae.



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RISSOA.

PLATE X.

Species 86. (Mus. Crosse.)

RISSOA (HEMISTOMIA) CALEDONICA. *Ris. testā albida, levigatā, oblongo-ovatā, tenui, apice obtuso; anfractibus quinque, ultimo oblongo, aperturā obliquè semilunari, labio externo expanso; columellā obliquā, infrā acuminatā.*

THE CALEDONIAN RISSOA. Shell whitish, smooth, oblong-ovate, thin, with obtuse apex; whorls five, the last oblong, aperture obliquely semi-lunar, outer lip expanded; columella oblique, acuminate below.

CROSSE. Journ. Conch. Vol. XII. p. 72, 1872.

Hab. Noumea, New Caledonia.

This shell bears so strongly the aspect of a true typical *Rissoa* that, in the absence of an operculum, it seems difficult to understand why a new genus should be created for it.

Species 87. (Mus. Brit.)

RISSOA (OINA) STRICTA. *Ris. testā solidā, pupiformi, pallidè fulvā, altū, rectā; anfractibus octo; apicalibus attenuatis, acuminatis; medianis subinflatī, rectilateralibus supernè perpendiculariter costatis, ultimo infrā levigato; aperturā parvā, semilunari, columellā brevi, obliquā, infrā truncatā, labio externo expanso, acuto.*

THE STRAIGHTENED RISSOA. Shell solid, pupa-shaped, pale fulvous, raised, straight; whorls eight; apical attenuated, acuminated, middle somewhat inflated, straight-sided, perpendicularly ribbed on the upper side, the last smooth below; aperture small, semilunar, columella short, oblique, truncated below, outer lip expanded, sharp.

MENKE. Zeitschrift für Malak. 1850.

Hab. Capo St. Lucas.

Rissoa fortis is a more broadly-ribbed, darkly-coloured shell.

Species 88. (Mus. Brit.)

RISSOA (OINA) STRIATICOSTATA. *Ris. testā, pyramidalē, albā, tenui, arcuatā, tenuiter costatā, spiraliiter striatā, anfractibus ultimo et penultimo subinflatī,*

superioribus parvis, attenuatis, apice acuminato, aperturā subtrigonā, labio externo producto, crassissimulo; columellā supernè incrassatā, infrā subtruncatā.

THE RIB-STRRIATED RISSOA. Shell pyramidal, white, thin, arched, finely ribbed, spirally striated, last and previous whorls a little inflated, upper small, attenuated, apex acuminate; aperture subtrigonial, outer lip produced, rather thick; columella thickened above, slightly truncate below.

D'ORBIGNY. Voy. Amér. Méridionale, p. 395.

Hab. St. Vincent's, West Indies.

Species 89. (Mus. Brit.)

RISSOA (OINA) CHESNELLII. *Ris. testā albi, subpyramidalē, solidā, costis solidis obliquè flexuosis et striis spiralibus, elevatis, cancellatā; spirā acuminatā, anfractibus apicalibus attenuatis, ultimo anfractu inflato; aperturā parvā, suprā infrāque subcanaliculatā, labio externo crasso, crenulato.*

CHESNELL'S RISSOA. Shell white, rather pyramidal, solid, cancellated with obliquely flexuous solid ribs and spiral striae; spire acuminated, apical whorls attenuated, last whorl inflated; aperture small, slightly channelled above and below; outer lip thick, crenulated.

MICHAUD. Cat. Ris. p. 17, f. 23-24.

Hab. India.

Species 90. (Mus. Brit.)

RISSOA (OINA) BUREANA. *Ris. testā pallidā, solidā, obtusè pyramidalē, levigatā, tenuissimè curvicotatā; aperturā parvā, subtrigonā, columellā crassi, brevi, subtortuā, subtruncatā, labio externo crasso.*

THE BUREAN RISSOA. Shell pale, solid, obtusely pyramidal, smooth, very slightly bent-ribbed; aperture small, subtrigonial, columella thick, short, rather tortuous, almost truncated, outer lip thick.

SOWERBY.

R. concinna. Adams.

Hab. Isl. Burea, Philippines.

RISSOA.—PLATE X.

Species 91. (Mus. Brit.)

RISSOA (OINA) NIVEA. *Ris. testâ subpyramidalâ, costis obliquè flexuosis ornatâ; spirâ elevatâ, apice acuminato; ultimo anfractu infrâ spiraliter costato, aperturâ infrâ subquadrati; columellâ parvâ, breviunculâ; labio externo incrassato.*

THE SNOWY RISSOA. Shell subpyramidal, ornamented with obliquely flexuous ribs; spire elevated, apex acuminated, last whorl spirally ribbed below; aperture rather square below; columella small, rather short; outer lip thickened.

ARTHUR ADAMS. Proc. Zool. Soc. 1851, p. 265.

Hab. Australia.

Species 92. (Mus. Brit.)

RISSOA (OINA) ALBIDA. *Ris. testâ pyramidalitâ, acuminatâ, albâ, vel fulvâ, semipellucidâ, tenui; ultimo anfractu subinflatâ, levigato, alteris costatis, versus apicem attenuatis; aperturiâ subtrigonâ, columellâ brevi, truncatâ, labio externo crasso.*

THE WHITISH RISSOA. Shell pyramidal, acuminated, white or buff, half-transparent, thin; last whorl a little inflated, smooth, the others ribbed, attenuated towards the apex; aperture rather trigonal, columella short, truncated, outer lip thick.

C. B. ADAMS. Shells of Jamaica.

Hab. West Indies.

Species 93. (Mus. Brit.)

RISSOA (OINA) LEVISSIMA. *Ris. testâ solidâ, breviter pyramidalâ, pallidâ fulvâ, politâ; spirâ acuminatâ, anfractibus rectilateralibus; aperturâ subtrigonâ, parvâ, columelliâ crassâ, brevi, truncatâ.*

THE VERY SMOOTH RISSOA. Shell solid, shortly pyramidal, pale fulvous, polished; spire acuminated, whorls straightened; aperture rather trigonal, small, columella thick, short, truncated.

C. B. ADAMS. Shells of Jamaica.

Hab. West Indies.

Species 94. (Mus. Brit.)

RISSOA (OINA) CATESBYANA. *Ris. testâ parvâ, pyramidalâ, fusca, breviunculâ, costis obliquè flexuosis, validis ornatâ; spirâ brevi, anfractibus convexis; aperturâ semilunari, labio interno supernè incrassato; columellâ brevi, arcuatâ, labio externo producto, incrassato.*

CATESBY'S RISSOA. Shell small, pyramidal, brown, rather short, ornamented with obliquely flexuous strong ribs; spire short, whorls convex; aperture semilunar, inner lip thickened above; columella short, arched; outer lip produced, thickened.

D'ORBIGNY. Shells of Cuba.

Rissoa scalarella. C. B. Adams.

Hab. Jamaica, Cuba.

Species 95. (Mus. Brit.)

RISSOA (OINA) PRINCEPS. *Ris. pyramidalâ, attenuatâ, albâ, acuminatâ; anfractibus tenuissimâ costatis et striatis; ultimo elongato, infrâ levigato; aperturâ subtrigonâ, labio externo tenui.*

THE PRINCE RISSOA. Shell pyramidal, attenuated, elevated, white, acuminated; whorls finely ribbed and striated, last elongated, smooth below; aperture subtrigonal, outer lip thin.

C. B. ADAMS. Shells of Jamaica.

Hab. Jamaica, West Indies.



96



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105

RISSOA.

PLATE XI.

Species 96. (Mus. Brit.)

RISSEA (OINA) SULCIFERA. *Ris. testâ crassâ, pallidâ, pyramidatâ; anfractibus senis, spiraliter costatis, costis crassis, angulatis, supra suturam tribus, intersticiis serrato-foveolatis; ultimo anfractu subventricoso; aperturâ pyriformi, labio externo crasso, columellâ crassâ, subplanulatâ.*

THE GROOVED RISSEA. Shell thick, pale, pyramidal; whorls six, spirally ribbed, ribs thick, angular, three above the suture, interstices serrated in pits; last whorl subventricose; aperture pyriform, outer lip thick, columella thick, somewhat flattened.

TROSCHEL. —? MS. Brit. Mus.

Hab. Coast of Belgium.

Of a pale colour, more broadly pyramidal than *Rissoina Trochlearis*.

Species 97. (Mus. Brit.)

RISSEA (OINA) FLEXUOSA. *Ris. testâ pyramidatâ, acuminatâ, medio spirâ subconcavâ; costis longitudinalibus, supra medium angulatis spiraliter subnodosis munitâ; aperturâ brevi, subovatâ; labio interno superiore subcalluso, columellâ acutâ; labio externo intus tumido.*

THE FLEXUOUS RISSEA. Shell pyramidal, acuminate, rather concave in the middle of the spire; provided with few longitudinal ribs, angular above the middle, slightly notched; aperture short, subovate, inner lip callous above; columella acute; outer lip tumid within.

GOULD. —? MS. Brit. Mus.

Hab. North America.

Species 98. (Mus. Brit.)

RISSEA (OINA) VILLICA. *Ris. testâ pyramidatâ, acuminatâ, albida; anfractibus novem, prope suturam angulatis, costis numerosis angulatis longitudinalibus munitis; ultimo infra medium spiraliter costato, costis longitudinalibus desinenteribus; aperturâ parvâ, subpyriformi; columellâ infrâ rectâ.*

THE STEWARDESS RISSEA. Shell pyramidal, acuminate, whitish; whorls nine, angular near the suture, provided with numerous angular longi-

tudinal ribs, the last spirally ribbed in the middle, the longitudinal ribs ending; aperture small, somewhat pyriform; columella straight below.

GOULD. Smithsonian Catalogue.

Hab. Loochoo.

In the middle of the last whorl the longitudinal ribs cease, and the lower part is only ribbed spirally.

Species 99. (Mus. Brit.)

RISSEA (OINA) EULIMOIDES. *Ris. testâ brevirostrata, albâ, politâ, lateraliter arcuatâ, acuminatâ; anfractibus senis, ultimo rotundo; aperturâ obliqui productâ, labio externo intus incrassato; columellâ latâ, crassâ, brevi.*

THE EULIMA-SHAPED RISSEA. Shell rather short, white, polished, laterally arched, acuminate; whorls six, last rounded; aperture obliquely produced, outer lip thickened within; columella broad, thick, short.

A. ADAMS. Proc. Zool. Soc. 1851, p. 279.

Hab. Isl. Capul, Philippines.

Species 100. (Mus. Brit.)

RISSEA (OINA) SEMIPPLICATA. *Ris. testâ parvâ, politâ, recte pyramidatâ, tenui, semipellucidâ, tenuissimè longitudinaliter plicatâ; aperturâ parvâ, subpyriformi, labio externo crasso, rotundo; columellâ parvâ, acuminatâ.*

THE HALF-PLAITED RISSEA. Shell small, polished, smoothly pyramidal, thin, semipellucid, very finely longitudinally plaited; aperture small, rather pyriform, outer lip thick, rounded; columella small, acuminate.

PEASE. Proc. Zool. Soc. 1862.

Hab. Pacific.

Thinner, narrower, and more transparent than *S. levissima*.

Species 101. (Mus. Brit.)

RISSEA (OINA) BROWNIANA. *Ris. testâ parvâ, pyramidatâ, acuminatâ, fulvâ, lœvi; anfractibus senis, altiusculis, ultimo subrotundo; aperturâ pyriformi, labio externo obliquè producto.*

RISSOA.—PLATE XI.

BROWN'S RISSOA. Shell small, pyramidal, acuminate, fulvous, smooth; whorls six, rather elevated, the last somewhat round; aperture pyriform, outer lip obliquely produced.

D'ORRIGNY. Voyage dans l'Amérique Méridionale.
Hab. St. Vincent's.

Species 102. (Mus. Brit.)

RISSOA (OINA) TRITICEA. *Ris. testā brevi, crassā, albā, pupiformi; anfractibus brevibus, costatis; costis arcuatis, levibus, rotundis, infra medium anfractus ultimi desinuntibus; ultimo anfractu brevi; aperturā parvā, subauriformi, antice rotundatā; labio crasso, rotundo; columelli brevi, continuo.*

THE WHEAT RISSOA. Shell short, thick, white, pupa-shaped; whorls short, ribbed, ribs curved, smooth, round, ending below the middle of the last whorl, last whorl short; aperture small, rather auriform, anteriorly rounded, lip thick, rounded, columella short, continuous.

PEASE. Proc. Zool. Soc. 1860, p. 438.

Hab. Pacific Ocean.

Species 103. (Mus. Brit.)

RISSOA (OINA) PHILIPPANI. *Ris. testā turritā, pallidè fulvā, longitudinaliter crebrè costatā, interstitiis cancellatis; anfractibus senis, rectis ad suturam angulatis; ultimo anfractu infrā spiraliter costatā, aperturā parvā, subovatā, columellā latā, subarcuatā.*

PHILIPPI RISSOA. Shell turreted, pale fulvous, longitudinally closely ribbed, interstices cancellated; whorls six, straight, with an angle at the suture, last whorl spirally grooved on the under side; aperture small, subovate; columella broad, a little curved.

PFEIFFER. —? MS. Brit. Mus.

Rissoa cancellata. Philippi.

Hab. Cuba, Jamaica.

Species 104. (Mus. Brit.)

RISSOA (OINA) WOODWARDI. *Ris. testā minutā, breviter pyramidalatā, pallidissimè fulvā; anfractibus senis, brevibus, longitudinaliter costatis; costis obliquè arcuatis, levibus, rotundis; ultimo anfractu infrā unicostato; aperturā parvā, pyriformi; labio extero crasso, anfractu apicali rotundo.*

WOODWARD'S RISSOA. Shell minute, shortly pyramidal, very pale fulvous; whorls six, short, longitudinally ribbed, ribs obliquely arched, smooth, rounded, last whorl single-ribbed below; aperture small, pyriform; outer lip thick, apical whorl rounded.

CARPENTER. Shells of Mazatlan, p. 357.

Rissoa clandestina. C. B. Adams.

Rissoa firmata. C. B. Adams.

Hab. Mazatlan.

Species 105. (Mus. Brit.)

RISSOA (OINA) TROCHLEARIS. *Ris. testā breviusculā, crassā, rubro fuscā, spiraliter costatā angulatis cinctā; anfractibus senis, brevibus, medianis paulò inflatis; aperturā albā, subovatā; columellā crassā, brevi; canali conspicuo, labio externo intus incrassato, extus crenato.*

THE COIL RISSOA. Shell rather short, thick, reddish brown, spirally belted with angular ribs; whorls six, short, middle ones a little inflated; aperture white, subovate; columella thick, short; canal conspicuous, outer lip thickened within, crenated without.

CARPENTER. MS. Smithsonian Inst. and B. M.

Rissoa sulcifera var. Gould.

Rissoa ligata. Gould.

Rissoa annulata. Dunbar.

Hab. —?



106.



107.



108.



109.



110.



111.



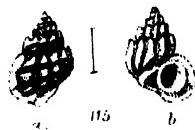
112.



113.



114.



a.

115.

b.

RISSOA.

PLATE XII.

Species 106. (Mus. Watson.)

RISSOA AURANTIACA. *Ris. testā pallidā aurantiā, altā, spirā subquadratā; anfractibus quinis, convexiusculis, altis, spiraliter tenuiter costatis, superiore costis obliquis, subdistantibus, longitudinalibus, sculptis, ultimo anfractu infrā spiraliter conspicuè bicostato; aperturā ovati, labio lato, margine interno anticè acutè producto.*

THE ORANGE RISSOA. Shell pale orange, raised, spire a little in steps; whorls five, rather convex, spirally finely ribbed, sculptured above with oblique, rather distant longitudinal ribs, last whorl with two spiral ribs below; aperture ovate, lip broad, inner margin anteriorly sharply produced.

WATSON. Proc. Zool. Soc. 1873, p. 367, Pl. XXXIV.
f. 3.

Hab. Madeira.

Species 107. (Mus. Watson.)

RISSOA CRISPA. *Ris. testā parvā, albidi, undulatim spiraliter costatā, gradatā, costis crassis longitudinalibus flexuosis ornatā; apice obtuso; anfractibus quaternis, supra medium angulatis, ultimo infrā spiraliter bicostato, umbilicato; aperturā subtriangulari, labio crasso, extē crenato, suprā infrāque angulato.*

THE CRISP RISSOA. Shell small, whitish, spirally ribbed in waves, ornamented with thick longitudinal flexuous ribs; apex obtuse; whorls four, angular above the middle, last with two spiral ribs below, umbilicated; aperture subtriangular, lip thick, crenated outside, angular above and below.

WATSON. Proc. Zool. Soc. 1873, p. 369, Pl. XXXIV.
f. 6.

Hab. Madeira.

Species 108. (Mus. Marrat.)

RISSOA MACANDREWI. *Ris. testā parvā, brevi, rubro-fuscā; anfractibus quinque, gradatis, angulatis, spiraliter orebrē costatis, costis perpendicularibus, crassis, supra medium angulatis munitis, ultimo*

infrā spiraliter unicostato; aperturā obliquā subovatā; costā labiali crassā, rotundā, spiraliter liratā.

MACANDREW'S RISSOA. Shell small, short, reddish-brown; whorls five, in steps, angular, spirally closely ribbed, strengthened with perpendicular thick ribs, with an angle above the middle, last with a single spiral rib below; aperture obliquely subovate, labial rib thick, rounded, spirally ridged.

WATSON. Proc. Zool. Soc. 1873, p. 372, Pl. XXXIV.
f. 8.

Hab. Gorgulho, Madeira.

Species 109. (Mus. Watson.)

RISSOA MONIZIANA. *Ris. testā brevissimā, ferè albi, spiraliter liratā, liris rotundis, approximatis; apice acuto; anfractibus quaternis, brevibus, supra medijs angulatis; aperturā magnā, rotundi, costā labiali subepansi, crassā.*

MONIZ'S RISSOA. Shell rather short, almost white, spirally ridged, ridges rounded, close; apex acute; whorls four, short, angular above the middle; aperture large, rounded, labial rib rather expanded, thick.

WATSON. Proc. Zool. Soc. 1873, p. 369, Pl. XXXIV.
f. 6.

Hab. Madeira.

Species 110. (Mus. Watson.)

RISSOA PICTA. *Ris. testā parvā, trochiformi, distanter spiraliter striatā, maculis fuscis quadratis in series tres dispositis ornatā; anfractibus quinque, convexis, ultimo magno; aperturā subtriangulari, labio crasso; columellā crassā, arcuatā.*

THE PAINTED RISSOA. Shell small, top-shaped, distantly spirally striated, ornamented with brown square spots arranged in three rows; whorls five, convex, last large; aperture subtriangular, lip thick; columella thick, arched.

JEFFREYS. Brit. Moll.

Hab. Madeira.

A narrower shell than *Rissoa depicta*, the whorls being more elongated and distinct.

RISSOA.—PLATE XII.

Species 111. (Mus. Watson.)

RISSOA NOVARENSIS. *Ris. testā parvā, breviter ovato-conicā, crassā, pallidissimā fulvā, costis longitudinalibus frequentibus liratis paulò arcuatīs, infra medium desinētibus, et liris spiralibus tenuibus sculptā, inter costas lisseriatim fusco-maculatis, infra maculas spiraliter tricostatī; anfractibus quaternis, brevibus, apicali rotundo, ultimo magno; aperturā subrotundā, labio crasso, rotundo.*

THE NOVARA RISSEA. Shell small, shortly ovate-conical, thick, very pale fulvous, sculptured with numerous ridged ribs a little curved, ending below the middle and slender spiral ridges, spotted with brown in two rows, three spiral ribs below the spots; whorls four, short, apical rounded, last large; aperture rather round, lip thick, rounded.

WATSON. Proc. Zool. Soc. 1873, p. 377, Pl. XXXV. f. 13.

Hab. Madeira.

Named after a frigate with which the shell had nothing to do.

Species 112. (Mus. Watson.)

RISSOA WATSONI. *Ris. testā parvā, tenui-angustulā, trochiformi, liris spiralibus prominentibus rotundis cincti; anfractibus quaternis, apicali semirotundo, duobus medianis angulari rugoso-costatis, inter costas castaneo maculatis, ultimo magno, angulari, supra angularum planulato, longitudinaliter costato, inter costas rubro-maculato, medio et infrā spiraliter solūm costato, costā labiali hand marginem attinenti.*

WATSON'S RISSEA. Shell small, rather thin, trochus-shaped, girt with spiral prominent ridges; whorls four, apical semirotund, two middle angular, roughly ribbed, last large, angular, flattened, and longitudinally ribbed and spotted with red between the ribs above the angle, only spirally ribbed in the middle and below; labial rib not reaching the margin.

SCHWARTZ. Proc. Zool. Soc. 1873, Pl. XXXV. f. 11.
Hab. Madeira.

Species 113. (Mus. Watson.)

RISSOA PERMINIMA. *Ris. testā parvā, oblongā, albā, opacā, lavigatā; anfractibus quaternis, subelevatis, lateraliter rotundatis, ultimo magno, angustè umbilicato; aperturā subovalā, margine ferè integro, tenui-angulo.*

THE VERY SMALL RISSEA. Shell small, oblong, white, opaque, smooth; whorls four, rather raised, laterally rounded, last large, narrowly umbilicated; aperture rather oval, margin nearly entire, rather thin.

MANZONI. Proc. Zool. Soc. 1873, p. 385.

Rissoa abjecta. Watson.

Hab. Madeira.

Species 114. (Mus. Watson.)

RISSOA ALBUGO. *Ris. testā parvā, tenui, semipellucidā, subovato-trochiformi, fasciis lineisque punctorum rubrorum pictā; anfractibus quinque, brevibus, convexis; aperturā magnā, anticè rotundā, posteriori acuminatā, columellā altā, subarcuata.*

THE PEARLY FILM RISSEA. Shell small, thin, semi-pellucid, subovate-trochiform, painted with bands and lines of red spots; whorls five, short, convex; aperture large, anteriorly rounded, posteriorly acuminated, columella high, rather arched.

WATSON. Proc. Zool. Soc. 1873, p. 379.

Hab. Madeira.

The colouring consists in spiral and perpendicular rows of minute red spots.

Species 115. (Mus. Watson.)

RISSOA GIBBERULA. *Ris. testā brevi, quadrangulari, solidā, albā, vel pallidè fulvā, spiraliter angustè trifasciatā, costis magnis obliquè flexuosis, distantibus, ad suturam acuminatis munitā, spirā gradatā, suturā concavā; anfractibus brevissimis, ultimo infrā costā spirali validā desinenti, latè umbilicato; aperturā parvā, perpendiculariter ovali, margine tenui, anticè prominenti, costā labiali latissimā, crassā.*

THE LITTLE HUMPED RISSEA. Shell short, quadrangular, solid, white or pale fulvous, with three spiral narrow bands, strengthened with large obliquely flexuous distant ribs, pointed at the suture, spire gradated, suture concave; whorls very short, the last ending below in a solid spiral rib, broadly umbilicated; aperture small, perpendicularly oval, margin thin, prominent in front, labial rib very broad, thick.

WATSON. Proc. Zool. Soc. 1876, p. 371, Pl. XXXIV. f. 7.

Hab. Madeira.

This beautiful little shell has the general appearance of a *Cancellaria*, but is a true *Rissoa*.



116.



117.



118.



119.



As.1



120.



121.



As.2



122.



123.

RISSOA.

PLATE XIII.

Species 116. (Mus. Watson.)

RISSOA CORIACEA. *Ris. testā parvā, albā, tenui, liris longitudinalibus tenuibus numerosis, eleganter flexuosis, et striis tenuissimis spiralibus sculptā; anfractibus quinis, apicali semirotundo, medianis convexis, ultimo magno, subovati; aperturā subovatā, anticē rotundā, posticē acuminatā, labio integro, tenui.*

THE CORIACEOUS RISSOA. Shell small, white, thin, sculptured with longitudinal, thin, numerous ridges, elegantly flexuous and very fine spiral striae; whorls five, apical half-round, middle convex, last large, subovate; aperture subovate, rounded anteriorly, acuminate posteriorly, lip entire, thin.

MANZONI. Proc. Zool. Soc. 1873, p. 389, Pl. XXXVI. f. 27.

Hab. Santa Cruz, Madeira.

A light inflated white shell, beautifully sculptured.

Species 117. (Mus. —?)

RISSOA (JEFFREYSIA) OPALINA. *Ris. testā subglobosā, fusco-corneā, diaphanā, nitenti; anfractibus quaternis, apicali semirotundo, duobus medianis brevibus, convexissimis, ultimo magno, inflato; aperturā subrotundā, margine integro.*

THE OPALINE RISSOA. Shell subglobose, horny-brown, diaphanous, shining; whorls four, apical half-round, two middle short, very convex, last large, inflated; aperture rather rounded, margin entire.

JEFFREYS. Brit. Moll.

Hab. Channel Islands (littoral.)

Species 118. (Mus. Brit.)

RISSOA (JEFFREYSIA) DIAPHANA. *Ris. testā parvā, nitenti, fusco-corneā, diaphanā, subconicā; spirā elevatā, conicā, obtusa; anfractibus quinis, gradatim crescentibus, convexis, ultimo subinflato; aperturā subrotundā, margine ferè continuo.*

THE TRANSPARENT RISSOA. Shell small, shining, horny-brown, transparent, rather conical; spire elevated, conical, obtuse; whorls five, gradually

increased, convex, last rather inflated; aperture rather round, margin nearly continuous.

ALDER. —? Forbes and Hanley, Brit. Moll.
Hab. Great Britain. Rare, littoral.

Species 119. (Mus. Brit.)

RISSOA (OINA) FASCIATA. *Ris. testā altā, acuminatā, pallidē fulvā, castano-bifasciatā, flexuoso erubrō costatā; anfractibus septem, declivibus; apertura subtrigonā, canali conspicuo, labio externo crasso, rotundo; columellā brevi, crassā.*

THE BANDED RISSOA. Shell raised, acuminated, pale fulvous, with two chestnut bands, with numerous flexuous ribs; whorls seven, sloped; aperture subtrigonal, canal conspicuous, outer lip thick, rounded; columella short, thick.

ANGAS. Proc. Zool. Soc. 1851, p. 264.

Hab. New Zealand.

Species 120. (Mus. —?)

RISSOA CASTANEA. *Ris. testā elevatā, lavigatā, fusci, apice obtuso; anfractibus quinī, convexisculis, gradatim crescentibus, elevatis, ultimo majuscūlo; aperturā subpyriformi, margine crassiscūlo.*

THE CHESTNUT RISSOA. Shell raised, smooth, brown; apex obtuse; whorls five, rather convex, gradually increasing, raised, last rather large; aperture rather pyriform, margin rather thick.

JEFFREYS. —? Brit. Moll.

Hab. British Islands.

Species 121. (Mus. Brit.)

RISSOA (OINA) COSTULATA. *Ris. testā parvā, pupiformi, solidā, longitudinaliter costulatā, albā, supra medium anfractum castaneo interruptim fasciatā; anfractibus octavis, apicalibus attenuatis, medianis subinflatī; aperturā parvā, margine tenui.*

THE SMALL RIBBED RISSOA. Shell small, pupa-shaped, solid, longitudinally ribbed, white, interruptedly chestnut-banded above the middle of the whorls

RISSOA.—PLATE XIII.

whorls eight; apical attenuated, middle a little swelled; aperture small, margin thin.

PEASE. —? MS. Brit. Mus.

Hab. Sandwich Islands.

SOWERBY.

Hab. Australia.

A deeply cancellated little species, not exactly resembling any yet described.

Species 122. (Mus. —? Copied.)

RISSEA (JEFFREYSIA) GULSONAE. *Ris. testū parvā, fulvescenti, levigatā, elevatā, spirā obtusā; anfractibus quinis, convervis, gradatim crescentibus, ultimo angustiūsculo, angustissimā umbilicato; aperturā subrotundata, antice producta.*

WILSON'S RISSEA. Shell small, slightly fulvous, smooth, raised, spire obtuse; whorls five, convex, gradually increasing, last rather narrow, very narrowly umbilicated; aperture rather rounded, anteriorly produced.

CLARK. —? British Mollusca.

Hab. Sandwith, Weymouth, Guernsey.

(ASSIMINEA.)

Species 1. (Mus. Sowerby.)

ASSIMINEA GRAYANA. *Ass. testū conicā, levigatā, epidermide subviridi indutā; spirā acuminatā; anfractibus quinis, declicibus, rectilateralibus; aperturā magnā, subtrigonā, intus castanē, margine continuo.*

GRAY'S ASSIMINEA. Shell conical, smooth, covered with greenish epidermis; spire acuminated; whorls five, sloped, straight-sided; aperture large, rather trigonal, chestnut within, margin continuous.

JEFFREYS. Trans. Linn. Soc.

Hab. Marshes of Kent.

Species 123. (Mus. Brit.)

RISSEA (OINA) AUSTRALIS. *Ris. testū minutā, albā, costis nodosis, distantibus, longitudinalibus et liris paucis spiralibus profundi cancellatā; anfractibus quinis, biangularibus; aperturā subtrigonā, canali conspicuo; columellā crassā, labio externo crasso, margine interno crenulato.*

THE AUSTRALIAN RISSEA. Shell very small, white, cancellated deeply with nodulous, distant, longitudinal ribs and few spiral ridges; whorls five, biangular; aperture subtrigonal, canal conspicuous; columella thick, outer lip thick, inner margin crenulated.

Species 2. (Mus. Sowerby.)

ASSIMINEA LITTOREA. *Ass. testū globosā, subdiaphani, levigatā, fulvā; anfractibus tribus, superioribus brevissimis, ultimo magno, inflato, angustè umbilicato; aperturā latā, margine tenui.*

THE SHORE ASSIMINEA. Shell globose, a little transparent, smooth, fulvous; whorls three, upper very short, last large, inflated, narrowly umbilicated; aperture broad, margin thin.

DELLE CHIAJE. —?

Hab. Shores at Weymouth, &c.

R I S S O A.

	Plate.	Species		Plate.	Species.
<i>abjecta</i> , Watson.....	XII.	113	<i>Corilea</i> , <i>D'Orbigny</i>	III.	24
<i>abyssicola</i> , <i>Forbes</i>	III.	23	<i>costata</i> , <i>Adams</i>	III.	20
<i>acicula</i> , <i>Risso</i>	II.	11	<i>costulata</i> , <i>Alder</i>	III.	29
<i>acuta</i> , <i>Desmarest</i>	II.	11	<i>costulata</i> (<i>Rissoina</i>), <i>Pease</i>	XIII.	121
<i>acutea</i> , <i>Draparnaud</i>	V.	41	<i>crassa</i> , <i>Angas</i>	VIII.	70
<i>albida</i> <i>C. B. Adams</i>	X.	92	<i>crassilabrum</i> , <i>Pease</i>	VII.	59
<i>albigo</i> , <i>Watson</i>	XII.	114	<i>crebrisulcata</i> , <i>Sowerby</i>	VI.	56
<i>Alderi</i> , <i>Jeffreys</i>	VI.	49	<i>crenulata</i> , <i>Michaud</i>	IV.	32
<i>anatina</i> , <i>Draparnaud</i>	VI.	51	<i>crispa</i> , <i>Watson</i>	XII.	107
<i>annulata</i> , <i>Dunker</i>	XI.	105	<i>crystallina</i> , <i>Brown</i>	II.	19
<i>approximata</i> , <i>Brown</i>	IV.	35	<i>Cumingii</i> , <i>Reeve</i>	I.	4
<i>Artensis</i> , <i>Montrouzier</i>	IX.	84	<i>cyclostoma</i> , <i>Recluz</i>	III.	26
<i>aurantiaca</i> , <i>Watson</i>	XII.	106	<i>decurvata</i> , <i>Montagu</i>	IX.	78
<i>auriscalpium</i> , <i>Linnæus</i>	II.	11	<i>deformis</i> , <i>Sowerby</i>	VII.	63
<i>australis</i> , <i>Sowerby</i>	XIII.	123	<i>denticulata</i> , <i>Risso</i>	IV.	1*
<i>Barleei</i> (<i>Odost.</i>), <i>Clarke</i>	VI.	52	<i>depicta</i> , <i>Montagu</i>	IX.	83
<i>Barleei</i> , <i>Jeffreys</i>	III.	27	<i>Deshayesiana</i> , <i>Recluz</i>	VII.	62
<i>Beanii</i> , <i>Hanley</i>	IV.	37	<i>diaphana</i> , <i>Alder</i>	XIII.	118
<i>Browniana</i> , <i>D'Orbigny</i>	XI.	101	<i>D'Orbignyanæ</i> , <i>A. Adams</i>	I.	7
<i>Bruguieri</i> , <i>Payrandeau</i>	I.	5	<i>Eulimoides</i>	XI.	99
<i>Bryerea</i> , <i>Montagu</i>	I.	8	<i>Europea</i> , <i>Risso</i>	I.	2
<i>Bureana</i> , <i>Sowerby</i>	X.	90	<i>exigua</i> , <i>Michaud</i>	III.	20
<i>celata</i> , <i>A. Adams</i>	II.	14	<i>eximia</i> , <i>Jeffreys</i>	VI.	52
<i>calathisca</i> , <i>Montagu</i>	I.-V.	10	<i>fasciata</i> , <i>Angas</i>	XIII.	119
<i>caluthus</i> , <i>Forbes</i> , <i>Hanley</i>	V.	39	<i>fimbriata</i> , <i>Sowerbie</i>	V.	45
<i>Caledonica</i> , <i>Crosse</i>	X.	86	<i>firmata</i> , <i>C. B. Adams</i>	XI.	104
<i>canaliculata</i> , <i>Schwartz</i>	VII.	50	<i>flexnosa</i> , <i>Gould</i>	XI.	97
<i>Canariensis</i> , <i>D'Orbigny</i>	IX.	82	<i>fortis</i> , <i>C. B. Adams</i>	IV.	30
<i>cancellicata</i> , <i>Recluz</i>	III.	22	<i>Frenimivillea</i> , <i>Risso</i>	I.	2
<i>cancellata</i> , <i>Costa</i>	IV.	32	<i>fulgida</i> , <i>Adams</i>	VI.	50
<i>carinata</i> , <i>Costa</i>	II.	16	<i>fulva</i> , <i>Michaud</i>	VI.	55
<i>castanea</i> , <i>Jeffreys</i>	XIII.	120	<i>gentilissiana</i> , <i>Crosse</i>	V.	44
<i>Catesbyana</i> , <i>D'Orbigny</i>	X.	94	<i>gibberula</i> , <i>Watson</i>	XII.	115
<i>Chesnelli</i> , <i>Michaud</i>	X.	89	<i>glabrata</i> , <i>Megherle</i>	II.	19
<i>cimer</i> , <i>Donovan</i>	IV.	32	<i>gracilis</i> , <i>Macgillivray</i>	V.	40
<i>cimer</i> , <i>Linnæus</i>	I.	2	<i>granulata</i> , <i>Philippi</i>	I.	2
<i>cimicoides</i> , <i>Forbes</i>	III.	25	<i>Grayana</i> , <i>Jeffreys</i> (<i>Assim</i>)	XIII.	1
<i>cineta</i> , <i>A. Adams</i>	VIII.	71	<i>Gulsonæ</i> , <i>Clarke</i>	XIII.	122
<i>cingillus</i> , <i>Montagu</i>	II.	15	<i>Guerinii</i> (—?)	III.	29
<i>clandestina</i> , <i>C. B. Adams</i>	XI.	104	<i>hyalina</i> , <i>Desmoulin</i>	IV.	33
<i>clathrata</i> , <i>A. Adams</i>	IX.	76	<i>incerta</i> , <i>Sowerbie</i>	V.	45
<i>communis</i> , <i>Forbes</i>	V.	40	<i>inconspicua</i> , <i>Alder</i>	IV.	34
<i>concinna</i> , <i>A. Adams</i>	I	9	<i>insignis</i> , <i>Ad. & Reeve</i>	VII.	61
<i>coreacea</i> , <i>Manzoni</i>	XIII.	116	<i>insolita</i> , <i>Deshayes</i>	V.	43

* Erroneously referred to Plate I. fig. 1.

RISSOA.

	Plate.	Species.		Plate.	Species.
<i>interru.</i> , Johnson.....	IV.	36	<i>scalariana</i> , <i>A. Adams.</i>	I.	6
<i>labiosa</i> , <i>Montagu.</i>	II.	12	<i>scalaroides</i> , <i>Adams.</i>	I.	1
<i>lactea</i> , <i>Desmoulinis.</i>	III.	22	<i>semiglabrata</i> , <i>A. Adams.</i>	VII.	53
<i>ligata</i> , <i>Gould</i>	XI.	105	<i>semistriata</i> , <i>Montagu.</i>	III.	28
<i>lignea</i> , <i>Thorpe.</i>	IX.	81	<i>semiplicata</i> , <i>Pease.</i>	XI.	100
<i>lilacina</i> , <i>Recluz.</i>	IV.	33	<i>similis</i> , <i>Scacchi.</i>	III.	29
<i>littorea</i> , <i>Delle Chiave (Assim).</i>	XIII.	2	<i>Smithii</i> , <i>Angas.</i>	VIII.	58
<i>levissima</i>	X.	93	<i>soluta</i> , <i>Philippi.</i>	VI.	48
<i>levissima</i> , <i>C. B. Adams.</i>	X.	93	<i>spirata</i> , <i>Sowerby.</i>	II.	17
<i>Macandrewi</i> , <i>Watson</i>	XII.	108	<i>splendida</i> , <i>Eichio.</i>	IX.	79
<i>maculata</i> , <i>Sowerby.</i>	IV.	31	<i>striata</i> , <i>Quoy.</i>	II.	14
<i>mamillata</i> , <i>Risso.</i>	I.	2	<i>striata</i> , <i>Montagu.</i>	V.	40
<i>marginatus</i> , <i>Montagn.</i>	II.	11	<i>striaticostata</i> , <i>D'Orbigny</i>	X.	88
<i>membranacea</i> , <i>Lovén.</i>	VIII.	67	<i>striatula</i> , <i>Montagu.</i>	II.	16
<i>minutissima</i> , <i>Michaud.</i>	V.	40	<i>stricta</i> , <i>Menke.</i>	X.	87
<i>Mohrensterni</i> , <i>Deshayes.</i>	VII.	57	<i>striolata</i> , <i>A. Adams.</i>	VII.	65
<i>Moniziana</i> , <i>Watson</i>	XII.	109	<i>subconciina</i> , <i>Sowerbie.</i>	IX.	85
<i>monilis</i> , <i>Fleming.</i>	II.	16	<i>sublutea</i> , <i>Adams.</i>	IV.	36
<i>monodonta</i> , <i>Bewan.</i>	VIII.	73	<i>subnigra</i> , <i>Philippi.</i>	III.	28
<i>Montagni</i> , <i>Peyraudieu.</i>	I.	3	<i>subumbilicata</i> , <i>Berkely.</i>	III.	27
<i>nitida</i> , <i>A. Adams.</i>	VI.	53	<i> sulcifera</i> , <i>Troschel.</i>	XI.	96
<i>nivea</i> , <i>A. Adams.</i>	X.	91	<i>supracostata</i> — ?	IV.	38
<i>nodicineta</i> , <i>A. Adams.</i>	VIII.	72	<i>tristriata</i> , <i>Thomson.</i>	III.	28
<i>Novarensis</i> , <i>Watson</i>	XII.	111	<i>triticea</i> , <i>Pease.</i>	XI.	102
<i>opalina</i> , <i>Jeffreys.</i>	XIII.	117	<i>trochlearis</i> , <i>Carpenter.</i>	XI.	105
<i>parva</i> , <i>Costa.</i>	IV.	36	<i>turricula</i> , <i>Angas.</i>	VIII.	69
<i>perminuta</i> , <i>Manzoni.</i>	XII.	113	<i>ulvæ</i> , <i>Pennant.</i>	III.	27
<i>Philipippiana</i> , <i>Pfeiffer.</i>	XI.	103	<i>unifasciata</i> , <i>Montagu.</i>	VI.	54
<i>picta</i> , <i>Jeffreys.</i>	XII.	110	<i>variabilis</i> , <i>Mühlfeldt.</i>	IX.	77
<i>plicata</i> , <i>Mühlfeldt.</i>	III.	20	<i>variegata</i> , <i>Angas.</i>	VII.	64
<i>princeps</i> , <i>C. B. Adams.</i>	X.	95	<i>ventricosa</i> , <i>Desmoulinis.</i>	III.	21
<i>proxima</i> , <i>Alder.</i>	II.	18	<i>ventricosus</i> , <i>Dillwyn.</i>	V.	41
<i>pulcherrima</i> , <i>Jeffreys.</i>	V.	47	<i>ventrosa</i> , <i>Montagu.</i>	V.	41
<i>pulchra</i> , <i>Johnson.</i>	III.	28	<i>venusta</i> , <i>Philippi.</i>	II.	13
<i>punctura</i> , <i>Montagu.</i>	IV.	35	<i>villica</i> , <i>Gould.</i>	XI.	98
<i>puncturata</i> , <i>Macgillivray.</i>	IV.	35	<i>violacea</i> , <i>Desmarest.</i>	VIII.	74
<i>pyramidalis</i> , <i>A. Adams.</i>	VIII.	66	<i>virginica</i> , <i>Brown.</i>	II.	18
<i>reticulata</i> , <i>Sowerby.</i>	VIII.	75	<i>vitrea</i> , <i>Montagu.</i>	II.	19
<i>rosea</i> , <i>Deshayes.</i>	V.	42	<i>vittata</i> , <i>Donovan.</i>	II.	15
<i>rubra</i> , <i>Adams.</i>	VI.	54	<i>Watsoni</i> , <i>Schwartz.</i>	XII.	112
<i>rufilabris</i>	IV.	33	<i>Woodwardi</i> , <i>Carpenter.</i>	XI.	104
<i>rupestris</i> , <i>Forbes.</i>	II.	15	<i>Zetlandica</i> , <i>Montagu.</i>	III.	26
<i>Sagraiana</i> , <i>D'Orbigny.</i>	IX.	80			

MONOGRAPH
OF THE GENUS
SILIQUARIA.

“Holy, holy, holy ! Lord God Almighty !
All Thy works shall praise Thy Name, in earth, and sky, and sea.”—*Bishop Heber.*



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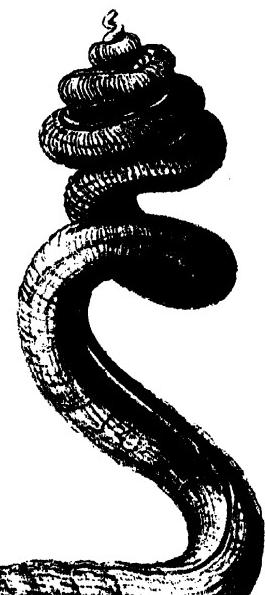
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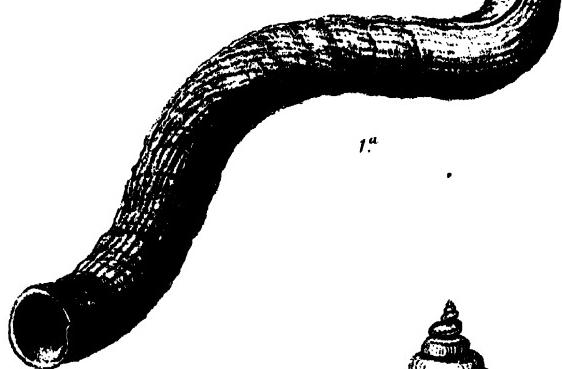
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2



SILIQUARIA.

PLATE I.

Genus SILIQUARIA. Bruguière.

Testa marina, tubuliformis, spiraliter inciso-fissurata, versus apicem plerumque larvā spiralis, deinde irregulariter contorta; operculum cornutum, cylindricum, multilaminatum.

Shell marine, tubuliform, with a spirally-incised fissure, generally loosely spiral towards the apex, afterwards irregularly twisted; operculum horny, cylindrical, consisting of numerous laminae.

Synonym. *TENAGODUS*. Guettard.

It is not within the scope of this work to enter critically into questions of generic nomenclature. If it were, we should still be disinclined to change the generally adopted and almost universally recognised name given above. The animal was formerly supposed to be an annelid, but is now ascertained to be a mollusk, with a remarkably complicated operculum, not unlike that of a solarium. The examination we have made gives us nearly a dozen fairly distinct species, with one or two of more doubtful character. The siliquarie are widely spread, the typical species being found frequently in groups embedded in sponges and entangled in the closely-twined roots of fuci. The Australian one or two species are like ponderous and coarse imitations of the Mediterranean *S. anguina*, excepting in the character of the slit. There do not appear to be any northern species of this interesting genus. M. Otto Mörcb, in his revision of the *Tenagodi* in the Zoological Proceedings, arranges the species into subgenera, and even into genera, by the characters of the slit. This, however, is so subject to variation in the same species, and even in the same individuals, that it is scarcely reliable even for specific, much less for generic, distinction.

Species 1. (Fig. a, b, c, d, Mus. Brit. Sowb.)

SILIQUARIA OBTUSA. Sil. testā elongatā, anfractibus magnis, utrinque spiraliter subteius liralis, intus leviusculus, extus incrassatis, concentricè fissurata,

apertura rotunda; fissurā spirali simplici, versus apicem frequenter clausa.

THE ORBUSE SILIQUARIA. Shell elongated, whorls large, spirally, rather finely lirated, rather smoother within, thickened on the outside, concentrically fissured; spiral fissure simple, frequently closed towards the apex.

SCHUMACHER.

Hab. Mediterranean.

Serpula anguina, as of Linn. Lam. Phil. &c.

Serpula annularis, Dillwyn.

Serpula angustus, Montfort.

Helix incisa, Linn. test. jun.

This species being generally known by the name *Siliquaria anguina*, I should much have preferred retaining that name for it. But it appears perfectly clear that Born was wrong in taking what Linnaeus erroneously introduced as a variety for the type of his species, which is the true *Serpula anguina* Linnaeus, *S. muricata* Bern. The name *S. obtusa* is founded upon what is a common variation in several species, namely, that of almost commencing with several broad, closely coiled whorls, so as to form a cylinder. *S. anguina* of Linnaeus is carefully described as having the slit subarticulated, whereas that of the present species is quite simple.

Species 2. (Fig. a, b, Mus. Brit.)

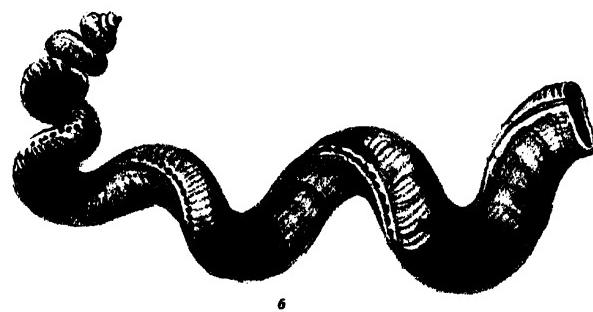
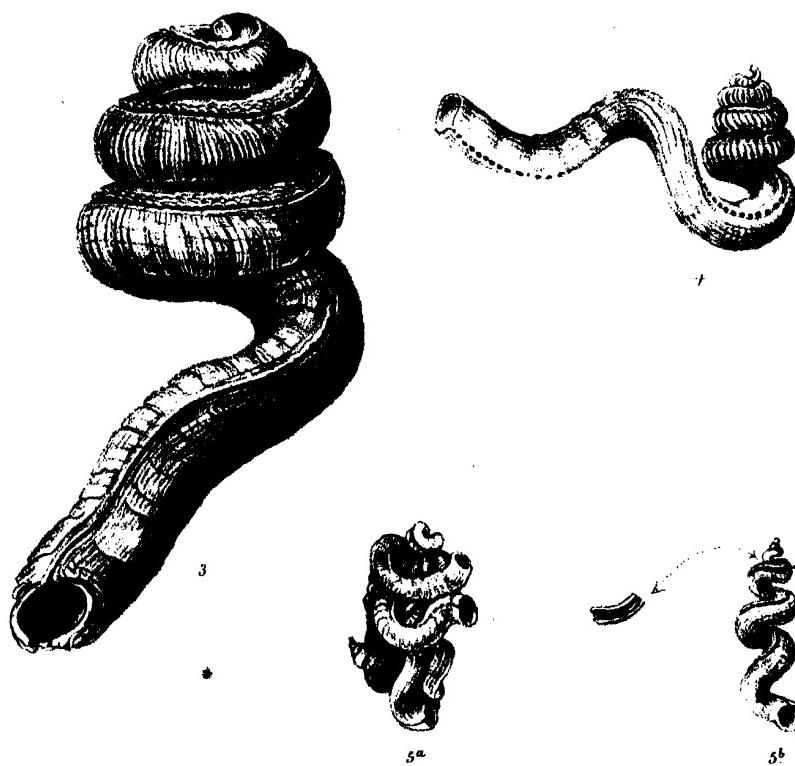
SILIQUARIA CUMINGII. Sil. testā elongatā, albā, angustè convolutā, tenuissimè spiraliter striata, extus infra tenuiter concentricè incisā; fissurā spirali articulatā.

CUMING'S SILIQUARIA. Shell elongated, white, narrowly convolute, very finely spirally striated, finely concentrically incised on the lower part outside; spiral fissure articulated.

MÖRCB. Proc. Zool. Soc. 1860.

Hab. Isl. Ticao, Philippines; var. b. Japan.

Fig. b is a somewhat broader variety of this finely sculptured shell. The slit is articulated so as to present a chain-like appearance.



S I L I Q U A R I A.

PLATE II.

Species 3. (Mus. Brit.)

SILIQUARIA PONDEROSA. *Sil. testâ griseo-fuscescenti crassissimo, magno; anfractibus magnis, prope apicem et infra latè convolutis et approximatis, supra fissuram undulato-dentatis, intus leviusculis, extus incrassatis, ruditè concentricè fissuratis, ultimo laxato; fissurâ spirali in anfractibus superioribus clausâ, tûm denticulatâ vel articulatâ, deinde simplici.*

THE PONDEROUS SILIQUARIA. Shell brownish grey, very thick, large; whorls large, broadly convoluted and approximate near the apex and below; wavy dentated above the fissure, rather smooth inside, thickened outside, roughly concentrically fissured; last loose; spiral fissure closed in the upper whorls, then denticulated or articulated, afterwards simple.

MÜRCH. (Tenagodus) Proc. Zool. Soc. 1860.

Hab. Port Essington.

We admit this species on account of the apparent distinctness of form, which may nevertheless be only analogous to the turbinated variety of *Siliquaria anguina*.

Species 4. (Mus. Brit.)

SILIQUARIA TROCHLEARIS. *Sil. testâ albiddâ, rugosâ, prope apicem et versus medium densè convolutâ; tubâ magnitudine mediocri; anfractibus subrugatis, concentricè ruditè fissuratis; fissurâ spirali rotundè et conspicuè articulatâ.*

THE PULLY SILIQUARIA. Shell whitish, rugose, closely convoluted near the apex and towards the middle; tube moderate in size; whorls rather rough, concentrically rudely fissured; spiral fissure roundly and conspicuously articulated.

MÜRCH. (Tenagoda) Proc. Zool. Soc. 1860, p. 408.

Hab. Philippines.

The coiled portion of this species is close and compact, and the regular rounded articulations give a chain-like appearance to the fissure.

Species 5. (Fig. a, b, Mus. Brit.)

SILIQUARIA LACTEA. *Sil. testâ pareâ, candidâ, vel fasciâ et violacea, plerumque irregulariter contortâ: tubâ pareâ, subrugosâ, rarò striatâ; anfractibus apicalibus spiraliter pyramidatis; alterius subequalibus: fissurâ articulatâ, prope apicem per laminam partim clausâ.*

THE MILKY SILIQUARIA. Shell small, white, or brown and violet, generally irregularly contorted; tube small, rather rough, rarely striated; apical whorls spirally pyramidal; others nearly equal; fissure articulated, partly closed near the apex by a lamina.

LAMARCK. Hist. Nat. Anim. s. Vert V. p. 338.

Hab. Port Essington.

This little siliquaria is very gregarious, forming conglomerated masses. Fig. b represents a small portion of one of these masses.

Species 6. (Mus. Brit.)

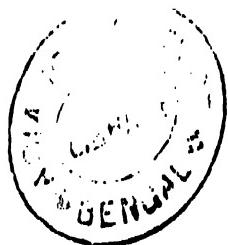
SILIQUARIA AUSTRALIS. *Sil. testâ magnâ, crassâ, versus apicem pyramidatâ, deinde laxatâ; tubâ magnâ, regulariter crescenti, intus tenuissimè striatâ, extus crassâ, rugosâ, concentricè fissuratâ; fissurâ spirali rotundè articulatâ, prope aperturam hianti; marginibus crassis.*

THE AUSTRALIAN SILIQUARIA. Shell large, thick, pyramidal towards the apex, then loosened; tube large, regularly increased, very finely striated on the inner side, thick, rugose on the outer, concentrically fissured; spiral fissure roundly articulated, gaping near the aperture; margin thick.

QUOY et GAIMARD. Voyage de l'Astrolabe.

Hab. Australia.

Although thicker and coarser in texture than the typical species, this species resembles it so much that it would be difficult to distinguish the two were it not for the round chain-like articulations of the spiral fissure. That of *S. obtusa* is quite simple.

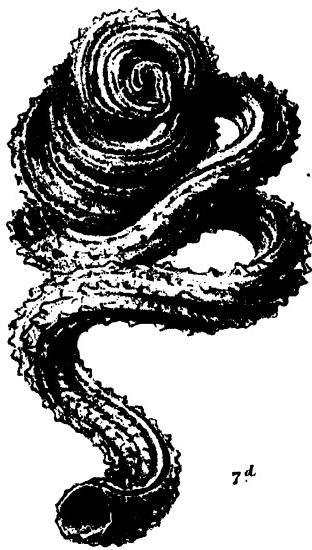




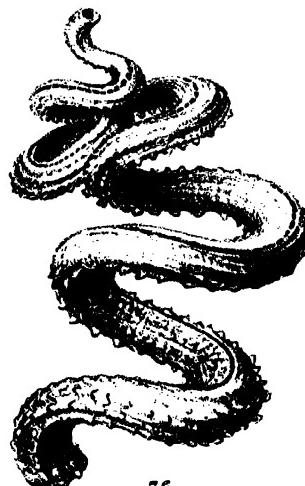
7b



7c



7d



7e

S I L I Q U A R I A.

PLATE III.

Species 7. (Fig. *a*, *b*, *c*, *d*, *e*, Mus. Brit. Sowb.)

SILIQUARIA ANGUINA. *Sil. testâ plerumque crassâ, latè et irregulariter contortâ, distanter spiraliter liratâ, liris acutè squamatis vel echinatis; tubâ plerumque leviter crescenti; fissurâ spirali angustissimâ in partibus oblongo-articulatâ.*

THE SNAKE SILIQUARIA. Shell generally thick, broadly and irregularly twisted, distantly spirally ridged ; ridges sharply squamose or spined ; tube generally very slowly increasing ; spiral fissure very narrow, with oblong articulations in parts.

LINNEUS. Syst. Nat. p. 1267.

Serpula muricata, Born.

Tenagoda anguina, Mörch.

Siliquaria polygona, Blainville.

Siliquaria ruber, Schumacher.

Siliquaria papillosa (?) Rees.

Siliquaria lavigata, Lamarck.

Siliquaria sulcata, Gray.

Serpula echinata, Gmel.

Hab. Moluccas, Ceylon.

It is not without hesitation that the varieties in form and coloring represented in the plate are united under one specific name. M. Mörch applies the name *T. muricata* to the pale yellow variety (fig. *d*), and that of *T. ruber* to the Ceylon purple, thick-shelled, flat-whorled variety. We thought at first that the specimen fig. *e* might represent a distinct species, the tube and whorls being rounder and more regularly increasing, and the ridges not being so strongly developed. But having the young specimen (fig. *c*) before us, with the apical whorls purple and smooth, and the lower pale and spinous, while in some parts of the most rounded whorls the ridges could easily be traced, we concluded that the union could be better maintained than the separation. It is not difficult, even with comparatively few specimens, to trace the species through all its forms. The rounded and angular, smooth and spinose, thick and slender, scales without ridges and ridges without scales, the dark purple, yellow, and white colours, the articulated, closed, and simple slit are to be found within a few specimens, and sometimes in a single one.



8.



10.



12.



13.



S I L I Q U A R I A.

PLATE IV.

Species 8. (Mus. Brit.)

SILIQUARIA SENEGALENSIS. *Sil. testā parvā, rugosā, roseā vel pallidē fulvā; tubā magnitudine mediocri, vix crescenti; anfractibus regularibus paucis, intus sublevigatis, extus concentricè rugatis; fissurā spirali articulatā, tūm versus aperturam simplici.*

THE SENEGAL SILIQUARIA. Shell small, rugose, pink or pale fulvous; tube of middle size, scarcely increasing; regular whorls few, rather smooth on the inner side, concentrically wrinkled on the outer; spiral fissure articulated, then simple towards the aperture.

RECLUS. *Revue Zoologique.*

Tenagoda incisa, Mörch, vix Chemn.

Hab. Senegal, Zanzibar?

In the rosy variety there is a strong resemblance to pink coral; the other varieties are unknown to us.

Species 9. (Mus. Brit.)

SILIQUARIA BERNHARDI. *Sil. testā albida, fulvo-nebulata, tenue elongatā, angustè et latè convolutā, versus apicem irregulariter pyramidatā; tubā angustā, crenulatim striatā; fissurā spirali rotundato-articulatā.*

BERNHARD'S SILIQUARIA. Shell white, clouded with fawn, thin, elongated, narrowly and loosely twisted, irregularly pyramidal towards the apex; tube narrow, crenulately striated; spiral fissure roundly articulated.

MÖRCH.

Hab. Senegal.

A large group in the British Museum, containing hundreds of specimens, testifies to the very gregarious nature of this species.

Species 10. (Mus. Brit.)

SILIQUARIA ENCAUSTICA. *Sil. testā parvā, crassā, rugosā, irregulariter pyramidatā; tubā parvā, intus levigatā, extus incrassatā, rugatā concentricè et*

fissuratā; fissurā spirali in anfractibus superioribus clausā, tūm articulatā, deinde simpli.

THE ENAMELLED SILIQUARIA. Shell small, thick, rugose, irregularly pyramidal; tube small, smooth on the inner side, thickened on the outer, roughly concentrically wrinkled and fissured; spiral fissure closed in the upper whorls, then articulated, afterwards simple.

MÖRCH. Proc. Zool. Soc. 1860, p. 408.

Hab. Ceylon.

But for the very strongly wrinkled exterior, this shell would seem to bear a rather strong resemblance to *S. trochlearis*. In the latter species, however, the slit is articulated throughout.

Species 11. (Mus. Brit.)

SILIQUARIA TOSTUS. *Sil. testā parvā, ferruginea, ad apicem intensè fusca; tubā angustā, levigatā; anfractibus ad apicem orbiculatis; fissurā spirali, articulatā, utrinque lineā denticulatā marginatā.*

THE BAKED SILIQUARIA. Shell small, ferruginous, very strong brown at the apex; tube narrow, rather smooth; whorls orbicular at the apex; spiral fissure articulated, bordered on both sides with a denticulated line.

MÖRCH. Proc. Zool. Soc. 1860, p. 405.

Hab. Ceylon.

Species 12. (Mus. Brit.)

SILIQUARIA REENTZII. *Sil. testā parvā, supernè et ad medium spiraliiter pyramidatā, fuscā; tubā parvā, extus concentricè fissuratā, fissurā spirali articulatā.*

REENTZI'S SILIQUARIA. Shell small, spirally pyramidal above and at the middle, brown; tube small, concentrically fissured outside; spiral fissure articulated.

MÖRCH. Proc. Zool. Soc. 1865.

Hab. —?

SILIQUARIA.—PLATE IV.

Species 13. (Mus. Brit.)

SILIQUARIA TAHIETENSIS. *Sil. testâ lacerigatâ, pallidâ fulvâ; tubâ angustâ, laxè contortâ, liratâ, inter liras cancellatâ; fissurâ spirali angustâ, simplici.*

THE TAHITIAN SILIQUARIA. Shell smooth, pale, fulvous; tube narrow, loosely twisted, ridged, cancellated between the ridges; spiral fissure narrow, simple.

MÖRCH. Proc. Zool. Soc.
Hab. South Seas.

We have only a fragment of this species, which M. Mörch describes as differing from *Sil. lactea* in the greater size, the stronger ridges, the cancellated interstices, and the narrow slit.

Species not known.

Sil. dubius, Debrune; *Sil. gigas*, Lissom; *Sil. porosa*, Boch; *Sil. (Ten.) Aquillæ*, Mörch; *Sil. (Ten.) cylindrella*, Mörch; *Sil. (Pyxipoma) Mobii*, Mörch.

MONOGRAPH

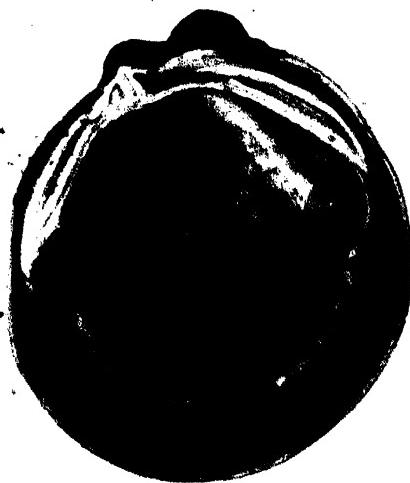
OF THE GENUS

CYRENA.

"Nature is God's pure work, unsullied by sin; and therefore the study of it is a pure delight to those who love Him."—*Dean Goulburn.*



1.



2b

C Y R E N A.

PLATE I.

Genus CYRENA. Lamarck.

MOLLUSCA ACEPHALOPODA, bimuscularum, fluviale vel subfluviale. Testa aequivalvis, inaequilateralis, crassa, plus minusve orbicularis, tumida, concentricè sulcata, vel rugata, epidermide cornuta, solidè indutæ; cardine crasso, dentibus cardinalibus duobus aut tribus, lateralibus elongatis, nonnumquam striatis; pallii impressione integrâ, vel via sinuata.

MOLLUSCA ACEPHALOPODA, bimuscular, fluviale or sub-fluviale. Shell equivalve, inequilateral, thick, more or less orbicular, tumid, concentrically grooved or wrinkled, covered with a horny solid epidermis; hinge thick, cardinal teeth two or three, lateral elongated, sometimes striated; pallial impression entire, or very slightly sinuated.

The shells composing this genus inhabit rivers and estuaries in tropical America, India, China, Australia, the Philippines and Islands of the Pacific. Although principally of freshwater habits, some are found in brackish water, and in the mud of mangrove swamps.

The distinctions between *Corbicula*, *Batissa*, and *Cyrena* seeming to me scarcely of generic importance, I have united them in this work under one generic term. It may, however, be convenient in the following list of specific numbers to designate the section to which each species belongs:—

Section 1. BATISSA. Lateral teeth straight and of moderate length. Species 1-21, 28.

Section 2. CORBICULA. Lateral teeth long, curved, and angular. Species 45-48, 51-61, 66-70, 72-77, 79-101.

Section 3. CYRENA. 22-27, 29-44, 49, 50, 62-65, 68, 71, 78, 102-114.

Species 1. (Mus. Brit.)

CYRENA GIGANTEA. Cyr. testa magnâ, ponderosa, subovata, valde inaequilaterali, irregulariter sulcata, epidermide crassâ, nigra indutâ; intus albâ, incrassata, partim purpureo tinotâ; latere antice brevi, postico producto, obscurissime angulato; cardine lato, dentibus cardinalibus integris, laterali antiquo brevi; ligamento magno, elongato.

THE GIGANTIC CYRENA. Shell large, ponderous, rather oval, very inequilateral, irregularly grooved, covered with a thick black epidermis; interior white, thick, tinted in parts with purple; anterior side short, posterior produced, very obscurely angular; hinge broad, cardinal teeth entire, anterior lateral short; ligament large, long.

PRIME. MS. Brit. Mus.

Hab. Philippines?

This species, having a short lateral tooth in front, is not very characteristic of the first or *Batissa* section.

Species 2. (Mus. Brit.)

CYRENA LENTICULARIS. Cyr. testa rotundâ, lenticulari, altâ, subaequilaterali, irregulariter rugata, epidermide solidâ, subiridi, nitens, indutâ, intus ferrè omnino purpureo vidente enfuscâ; cardine subangustâ, denta cardinali centrali bifido, laterales inaequaliter elongatis, compressa, tenuiimperforatis.

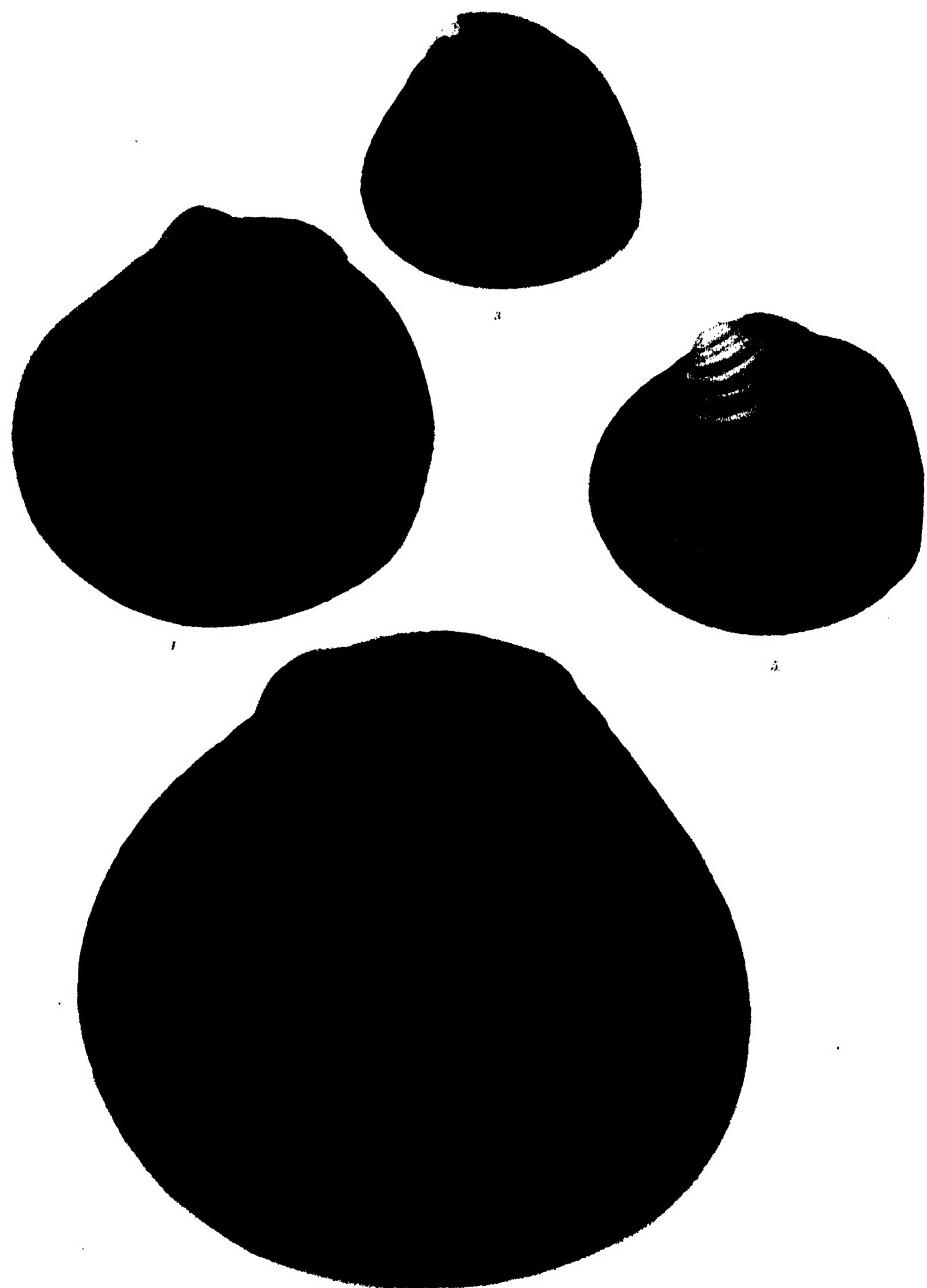
THE LENTICULAR CYRENA. Shell rounded, lenticular, high, subaequilateral, irregularly wrinkled, covered with a solid reddish green epidermis, tinged with nearly all over with vivid purple; hinge rather narrow, central cardinal tooth bifid, lateral teeth elongated, compressed, very finely granulated.

DÉSHAYES. Mus. Brit.

Hab. Philippines.



Cyrena *Pt II*



C Y R E N A.

PLATE II.

Species 3. (Mus. Brit.)

CYRENA TRIQUETRA. *Cyr. testū subtrigonā, altā, sub-compressā, ləvi, epidermide subviridi, partim nigrescenti indutā; latere antico brevissimo, declivi; umboibus elevatis; latere postico angulato, margine dorsali declivi.*

THE THREE-CORNED CYRENA. Shell rather trigonal, high, rather flat, smooth, covered with a rather green epidermis, blackish in parts; anterior side very short, sloped; umboes raised; posterior side angular, dorsal margin sloped.

DESHAYES. Proc. Zool. Soc. 1854, p. 13.

Hab. Philippines.

Species 4. (Mus. Brit.)

CYRENA ROTUNDATA. *Cyr. testū rotundā, tumidā, inaequilaterali, irregulariter rugatā et sulcatā, epidermide solidā, subviridi, nitenti, medio radiatim striatā indutā; intus sparsim violascenti; latere antico brevi, compresso; latere postico tumidisimo, subrugato, margine laterali subquadrato.*

THE ROUNDED CYRENA. Shell round, tumid, inequilateral, irregularly wrinkled and grooved, covered with a solid, greenish, shining epidermis, radiately striated in the middle; sparingly purpled within; anterior side short, compressed; posterior area very tumid, rather smooth, lateral margin rather square.

L.F.A. Trans. Am. Ph. Soc. Pl. XVII. f. 51.

Hab. East Indies.

More tumid in the middle, and more depressed at the dorsal margin than *Cyrena lenticularis*.

Species 5. (Mus. Brit.)

CYRENA OBESA. *Cyr. testū subrotatā, laevigatā, castaneā, tumidā, distanter leviter sulcatā; latere antico brevi, tenuiter rugato, declivi; latere postico obscurè triangulato; margine dorsali rectilæsculo.*

THE FAT CYRENA. Shell subovate, smooth, chestnut, tumid, distantly slightly grooved; anterior side short, finely wrinkled, sloped; posterior side obscurely three-angled; dorsal margin rather straight.

HINDS. Voy. Sulphur.

Hab. Feejee Islands.

The posterior side is much produced, and the margin modified in shape by the three radiating obscure angles.

Species 6. (Mus. Brit.)

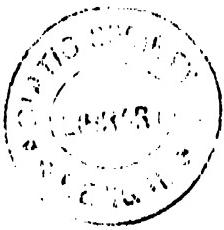
CYRENA KERAUDRENI. *Cyr. testā magnā, crassā, sub-ovatā, posticē distanter, anticē crebre sulcatā, epidermide nigra indutā; intus margine cardinali postico purpureo maculato, medio subradiato, latere antico brevi, declivi; latere postico producto, subacuminato, ligamento maximo, elongato.*

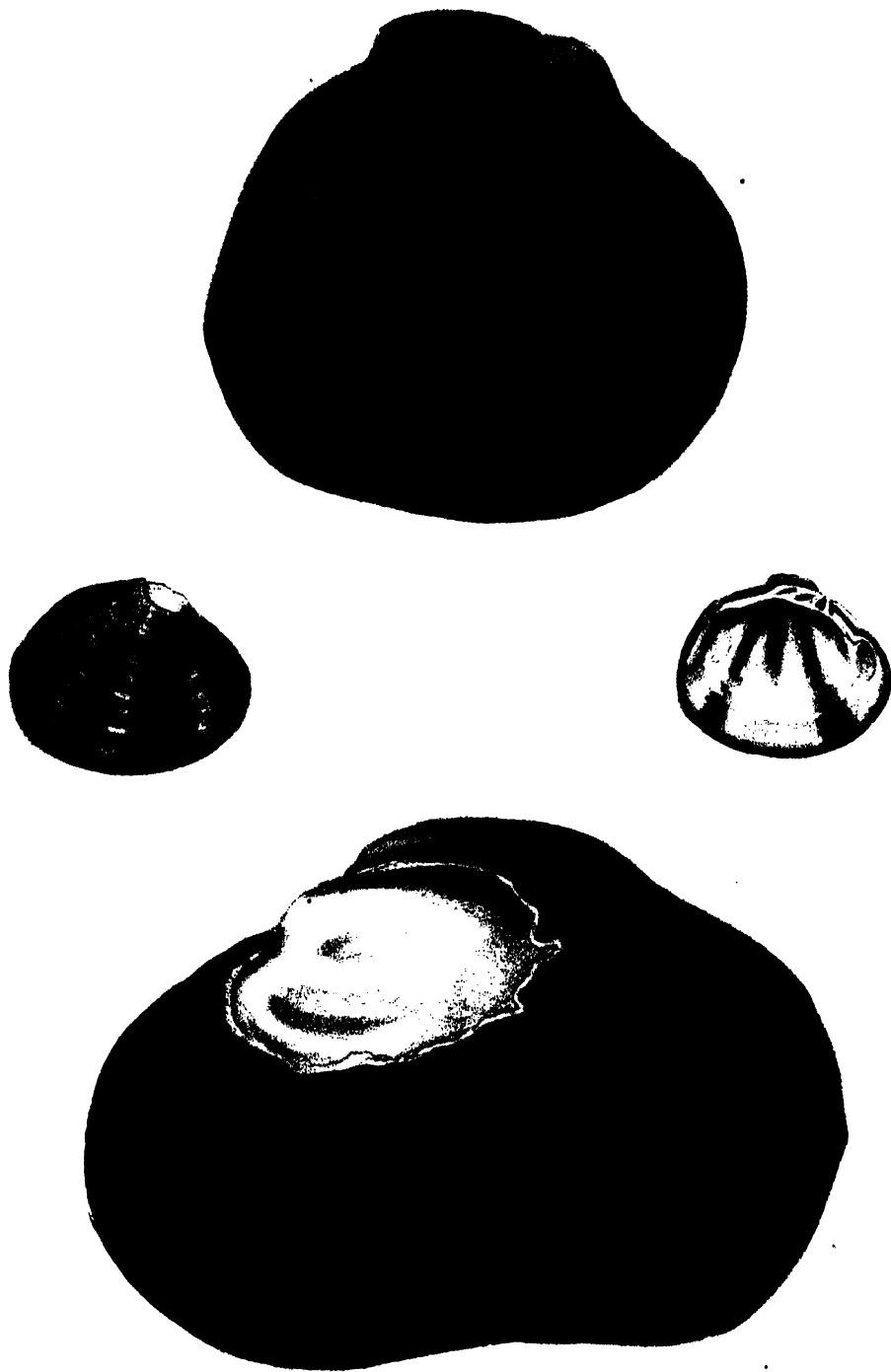
KERAUDREN'S CYRENA. Shell large, thick, subovate, posteriorly distantly, anteriorly closely sulcated; covered with a black epidermis; with a purple spot on the posterior cardinal margin within, somewhat rayed in the middle; anterior side short, sloped; posterior side produced, a little acuminate, ligament very large, long.

LESSON. Voy. de la Coquille. Pl. II. f. 3.

Hab. Philippines.

Has very much the form and appearance of a large dark Cyprina.





C Y R E N A.

PLATE III.

Species 7. (Mus. Brit.)

CYRENA INSIGNIS. *Cyr. testā elongato-subquadratā, subcompressā, anticē rugis elevatis, undulatis, non nullis bifurcatis liratā, posticē levigatā; latere antico brevi, rotundo; latere postico subquadrato, areā dorsali impressā obliquè radiato; umbonibus depresso; margine ventrali rectiusculo.*

THE WONDERFUL CYRENA. Shell elongated-subquadrate, rather compressed, anteriorly ridged with raised, undulating, some of them bifurcated wrinkles, posteriorly smooth; anterior side short, round; posterior side rather square, obliquely rayed with a dorsal area; umboes depressed, ventral margin rather straight.

DESHAYES. Proc. Zool. Soc. 1854, p. 18.

Hab. Philippines.

The wrinkles on the anterior surface of this shell are very remarkable.

Species 8. (Fig. a, b, Mus. Brit.)

CYRENA MINOR. *Cyr. testā ovato-subrotundatā, depressā, compressiā, subviridi-stramineā, medio albo bibradiato, levigato; intus viridē purpureo radiato; latere antico breviter lirato, brevi, valde declivi; latere postico latiori; umbonibus obtusis; margine dorsali depresso; cardine angusto, dente laterali antico breviusculo.*

THE SMALLER CYRENA. Shell ovate-roundish, depressed, compressed, greenish straw, with two

white rays, smooth; rayed with bright purple within; anterior side shortly ridged, short, much sloped; posterior side wider; umboes obtuse; dorsal margin depressed; hinge narrow, lateral anterior tooth rather short.

PRIME. MS. Mus. Brit.

Hab. —

This little shell being rayed within and without, and being more depressed at the dorsal margin than most of the group to which it belongs, may show it to be a distinct species, rather than the young of some other.

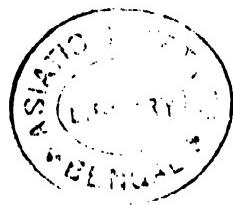
Species 9. (Mus. Brit.)

CYRENA UNIONIFORMIS. *Cyr. testā crassā, oblongā, reniformi, subarcuatā, epidermide nigra, rugatā indutā; latere antico brevi, margine dorsali declivi; umbonibus parvis incurvis, depresso, latere postico producto, margine dorsali arcuato, margine ventrali excavato; ligamento maximo.*

THE UNIO-SHAPED CYRENA. Shell thick, oblong, kidney-shaped, rather arched, covered with a black, rough epidermis; anterior side short, dorsal margin sloped; umboes small, incurved, depressed; posterior side produced, dorsal margin arched; ventral margin excavated; ligament very large.

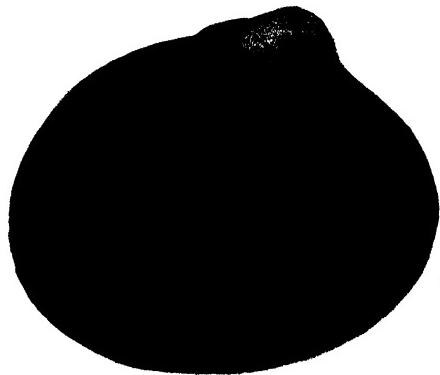
PRIME. Proc. Zool. Soc. 1860, p. 319.

Hab. — ?

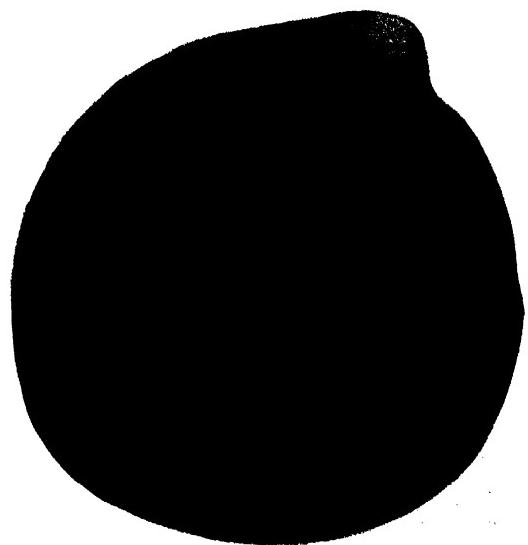




10.



11.



12.

C Y R E N A.

PLATE IV.

Species 10. (Mus. Brit.)

CYRENA INFLATA. *Cyr. testâ tumidissimâ, crassâ, valde inaequilaterali, epidermide rugosâ, crassâ, nigrâ indutâ, intus versus marginem densè purpureâ, ad marginem nigrescenti; margine cardinali lato, fulcro latissimo, dente antico brevi, magno; latere antico brevi, angusto; latere postico expanso, inflato, ad marginem biangulato; margine dorsali elevato.*

THE INFLATED CYRENA. Shell very tumid, thick, very inequilateral, covered with a rough, thick black epidermis, deep purple within towards the margin, deepening into black at the margin; cardinal margin broad, fulcrum very broad; anterior tooth short, large; anterior side short, narrow; posterior side expanded, inflated, with two angles at the margin; dorsal margin raised.

PRIME. Proc. Zool. Soc. 1860, p. 20.

Hab. Nicobar Islands.

Species 11. (Mus. Brit.)

CYRENA VENERIFORMIS. *Cyr. testâ ovalâ, solidâ, castaneâ, tumidâ; intus purpureo partim suffusâ; latere antico brevi, declivi, ferè usque ad medium subregulariter lirato; latere postico inflato, tumido, ad marginem rotundato; umbonibus prominentibus.*

THE VENUS-SHAPED CYRENA. Shell ovate, solid, chestnut, tumid, suffused with purple inside; anterior side short, sloped, rather regularly ridged as far as the middle; posterior side in-

flated, tumid, rounded at the margin; umboes prominent.

SOWERBY.

Balissa fuscata. Prime.

Cyrena fuscata of Lamarck belongs to the section separated by authors as a genus under the name *Corbicula*. It is a very inconvenient practice, in naming new shells, to repeat a name already applied to a species in what has recently been considered the same genus.

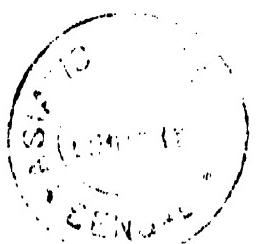
Species 12. (Mus. Brit.)

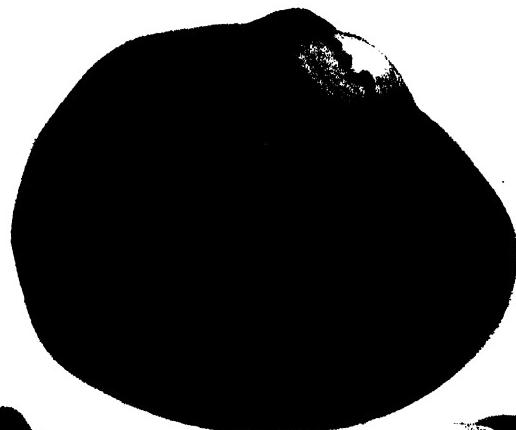
CYRENA PRODUCTA. *Cyr. testâ magnâ, altâ, subrotundâ, epidermide fusco-subviridi nitenti indutâ, medio levigatâ, utroque latere distanter sulcatâ: intus roseâ, densè purpurascenti, latere antico brerissimo, arcu depresso sublunulari, ad marginem sinuatâ; latere postico subquadrato, margine dorsali elevato; umbonibus elevatis, prominentibus, incurvis; ligamento magno, brevi.*

THE PRODUCED CYRENA. Shell large, elevated, rather round, covered with a greenish brown shining epidermis; smooth in the middle, distantly grooved on each side; rose, shading into deep purple within; anterior side very short, sinuated at the margin by a depressed lunule-like area; posterior side rather square, dorsal margin elevated; umboes raised, prominent, turned inwards; ligament large, short.

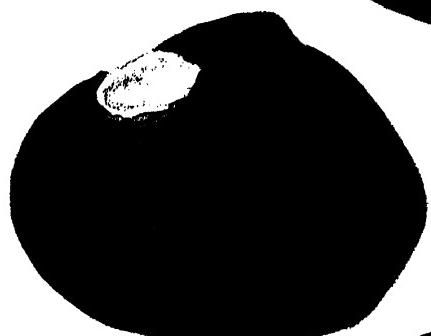
DESHAYES (*Batissa*). Proc. Zool. Soc. 1854, p. 13.

Hab. —?





13.



14.



15.



16.

C Y R E N A.

PLATE V.

Species 13. (Mus. Brit.)

CYRENA AUSTRALIS. *Cyr. testâ ovatâ, crassâ, inflatâ; castaneâ, intus posticè roseo-purpurascenti radiatâ; latere antico brevi, angustato, subacuminato, subregulariter lirato, prope marginem dorsalem areâ depressâ subsinuato; latere postico tumidissimo, radialem biangulatum; umbonibus ovatis, depresso-*

THE AUSTRALIAN CYRENA. Shell ovate, thick, inflated, chestnut, posteriorly rayed with rose-purple within; anterior side short, narrow, rather acuminate, nearly regularly ridged; slightly sinuated near the dorsal margin by a depressed area; posterior side very tumid, radiately biangular; umboes ovate, depressed.

DESHAYES. Proc. Zool. Soc. 1854, p. 14.

Hab. South Australia.

Species 14. (Mus. Brit.)

CYRENA TENEBROSA. *Cyr. testâ ovato-oblongâ, compressâ; intus posticè densè purpureâ, extus epidermide fumoso-castaneâ indutâ; latere antico brevi, angusto, obtuso, liris acutiusculis rugato; umbonibus depresso;*

medio levî, complanato; latere postico producto, late, validè biangulato; margine dorsali rectiusculo, subelevato.

THE SHADOWY CYRENA. Shell ovate-oblong, compressed; deep purple posteriorly within, covered outside with a smoky chestnut epidermis; anterior side short, narrow, obtuse, wrinkled with rather sharp ridges; umboes depressed, middle smooth, flat; posterior side produced, broad, with two strong angles, dorsal margin somewhat straight, rather raised.

HINDS. Voy. Sulphur.

Hab. Feejee Islands.

Species 15. (Mus. Brit.)

CYRENA VIOLACEA. *Cyr. testâ ovato-oblongâ, subcompressâ, castaneâ, intus violaceo suffusâ; latere*

antico liris distinctis, nonnullis intercalatis ad medium extensis sculpto, margine dorsali declivi; latere postico producto, obscurè radiatum triangulatum; margine dorsali elevato, arcuato, margine ventrali paulò excavato.

THE VIOLET CYRENA. Shell ovate-oblong, rather compressed, chestnut; suffused with violet within; anterior side sculptured with distinct ridges, some intercalated, extending to the middle, dorsal margin sloped; posterior side produced, with three obscure radiating angles; dorsal margin raised, arched, ventral margin a little excavated.

LAMARCK. Anim. s. Vert. Chênu: Illus. Conch. Pl. VII. f. 5.

Hab. Indian Ocean.

There can be little certainty as to the identification of this Lamarckian species. The specimen figured resembles in form and compression the one figured by Chênu as Lamarck's shell. It is, however, uncoated.

Species 16. (Mus. Brit.)

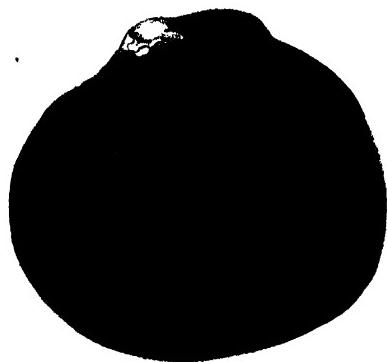
CYRENA FORTIS. *Cyr. testâ subcompressâ, subovatâ, crassâ; intus dentibus lateralibus subaequalibus, elongatis, serratis, cardinalibus bifidis armatâ; extus epidermide viridi-fuscâ, crassâ, subrugosâ indutâ; latere antico sulcis crebris sculpto; latere postico sulcis distantibus rugato; late angulato, post angulum liris divergentibus subnodosis rugato.*

THE STRONG CYRENA. Shell rather compressed, rather oval, thick; armed within with rather equal elongated, serrated, lateral and bifid cardinal teeth, covered outside with a greenish-brown, rather rough epidermis; anterior side sculptured with numerous ridges; posterior side wrinkled with distant sulci; broadly angular, behind the angle wrinkled with diverging, rather nodose ridges.

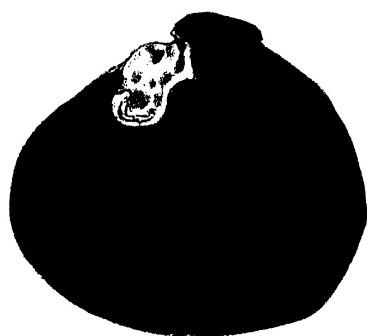
PRIME. Proc. Zool. Soc. 1860, p. 320.

Hab. New Caledonia.

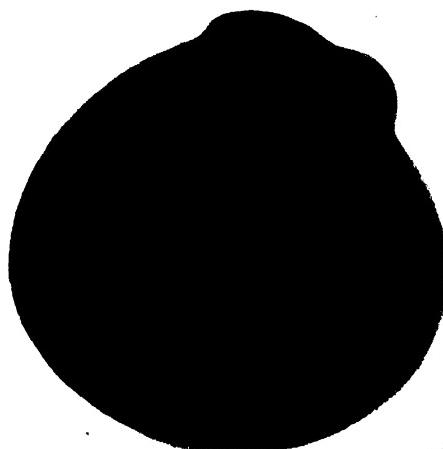




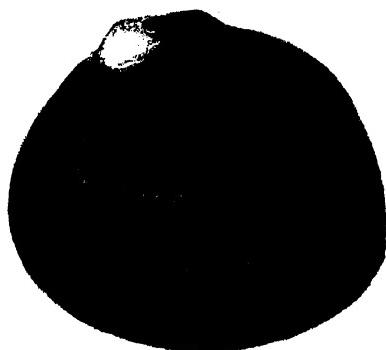
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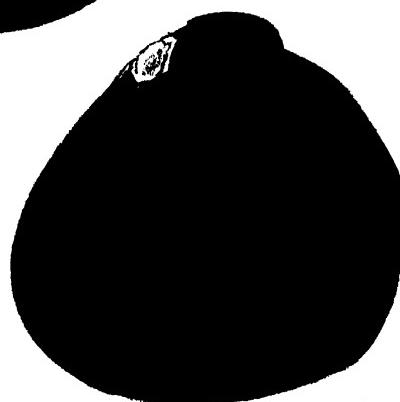
18.



19.



20.



21.

PL VI

C Y R E N A.

PLATE VI.

Species 17. (Mus. Brit.)

CYRENA CHILDRENI. *Cyr. testā subrotundā, compressā, levigatā, fusco-viridescenti, intūs carneō violaceous nebulatā; latere antico brevi, declivi, liris paucis brevibus rugatā; latere postico subinflatā, rotundatim angulato; margine dorsali rectiūsculo, margine ventrali convexo, margine postico obliquū subquadrato.*

CHILDREN'S CYRENA. Shell rather rounded, compressed, smooth, greenish brown; within clouded with flesh tint and violet; anterior side short, sloped, wrinkled with few short ridges; posterior side rather inflated, roundly angular; dorsal margin rather straight, ventral margin convex, posterior margin obliquely subquadrate.

GRAY. MS. Mus. Brit.

Hab. Philippines.

Species 18. (Mus. Brit.)

CYRENA HUMEROSA. *Cyr. testā ovato-subtrigonā, castanēā, latere antico brevi, declivi, subacuminatō, conspicuē lirato; umboibus depressis, obtusis; latere postico obtusē biangulato, levigato, versus angulum posticum tumido, gibboso, margine dorsali elevato, subulato.*

THE SHOULDERED CYRENA. Shell ovate-subtrigonal, chestnut, anterior side short, sloped, rather acuminate, conspicuously ridged; umbones depressed, obtuse; posterior side with two obtuse angles, smooth, very tumid and gibbous, dorsal margin raised, somewhat winged.

DESHAYES. Proc. Zool. Soc. 1854, p. 14.

Hab. —?

Although a little resembling *Cyr. triquetra*, Desh., this species is not so elevated at the dorsal margin, nor so directly sloped in front.

Species 19. (Mus. Brit.)

CYRENA JAYENSIS. *Cyr. testā rotundā, altā, solidā, tumidā, castaneā, versus marginem viridescenti, latere antico brevissimo, ad marginem areā depressā sinuato, sulcis brevibus rugato; umboibus rotundi, prominentibus; latere postico inflato, rotundo margine dorsali elevato; ligamento magno.*

JAY'S CYRENA. Shell round, high, solid, tumid, chestnut, becoming greenish towards the margin; anterior side very short, situated at the margin by a depressed area, wrinkled with short grooves; umboes rounded, prominent; posterior side inflated, round, dorsal margin raised; ligament large.

LEA. Trans. Am. Ph. Soc. Vol. 5. Pl. XVII, f. 52.

Hab. Waigori.

Species 20. (Mus. Brit.)

CYRENA GRACILIS. *Cyr. testā subrotundā, complanatā, fumoso-stramineā, intūs carneolo purpureoqua suffusā; latere antico brevissimo, areā depresso angustā, supernē declivi; latere postico obliquē angulato, post angulum liris divergentis distantibus rugato; margine dorsali ferè recto, margine postico obliquē subtruncato.*

THE SLENDER CYRENA. Shell rather round, flat, smoky straw, within suffused with flesh and purple; anterior side very short, with a narrow depressed area, sloped above; posterior side obliquely angular, wrinkled behind the angle with diverging ridges; dorsal margin nearly straight, posterior margin obliquely truncated.

PRIME. Proc. Zool. Soc. 1860, p. 319.

Hab. —?

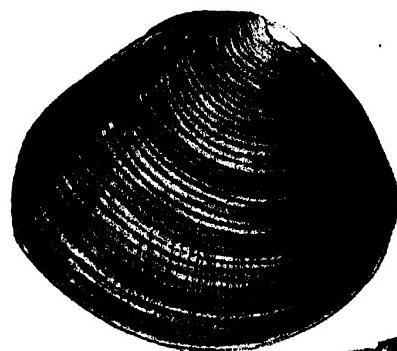
Species 21. (Mus. Brit.)

CYRENA CORBULOIDES. *Oyr. testā obliquē subtrigonā, subcompressā, altā, complanatā; vivide viridescenti; epidermide undulatim striatā indutā; latere antico brevissimo, marginē laterali valde declivi, umboibus elevatis; latere postico obscurē trigono, margine ventrali rectiūsculo.*

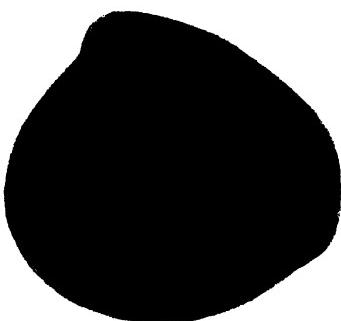
THE CORBULA-SHAPED CYRENA. Shell obliquely subtrigonal, subcompressed, high, flat, bright brownish green, covered with a wavy striated epidermis, anterior side very short, lateral margin much sloped downwards, umboes raised; posterior side obscurely trigonal, ventral margin rather straight.

DESHAYES. Proc. Zool. Soc. 1854, p. 14.

Hab. Louisiade Archipelago.



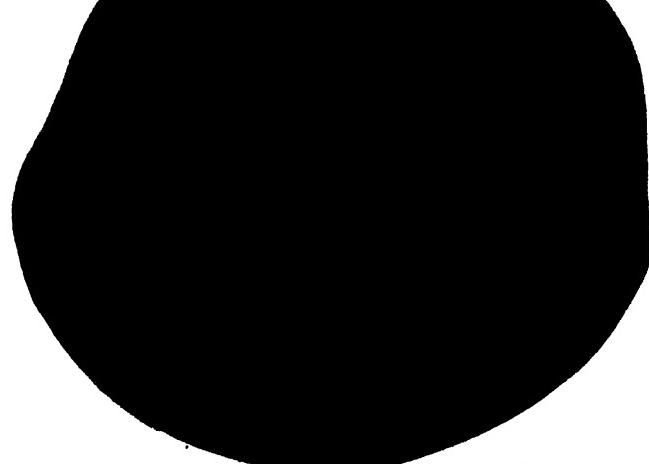
22.



23.

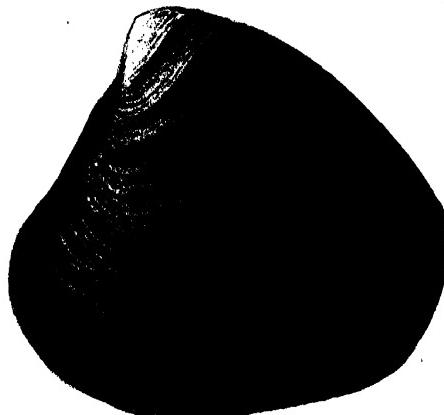


24.



25.

24.



25.

26.

C Y R E N A.

PLATE VII.

2nd Division, Cyrena proper. Anterior lateral tooth short, not serrated.

Species 22. (Mus. Brit.)

CYRENA PAPUA. *Cyr. testā ovatā, compressā, stramineā, concentricē subdistanter fimbriatim striatā; versus umbones utrinque areā impressū marginatā; latere antico brevi, rotundo, margine dorsali convexā, declivi; latere postico producto, radiatim angulatā, margine dorsali prope umbones convexo, tunc declivi, margine terminali breviter truncato; umbonibus depressis.*

THE PAPUA CYRENA. Shell ovate, compressed, straw-coloured, concentrically rather distantly fringed-striated; bordered on each side near the umbones with an impressed area; anterior side short, round, dorsal margin convex, sloped downwards; posterior side produced, radiately angular, dorsal margin convex near the umbones, then sloped downwards, terminal margin shortly truncated; umbones depressed.

LESSON. Guérin: Mag. Zool. Pl. XI.

Hab. — ?

Species 23. (Mus. Brit.)

CYRENA BENGALENSIS. *Cyr. testā solidā, tumidā, crassā, subtrigonā, fusco-nigrescenti, rugoso-striatā; latere antico alto, brevissimo, declivi, amplio; latere postico producto, margine dorsali longè declivi, ad terminum truncato, ante angulum vix excavato.*

THE BENGAL CYRENA. Shell solid, tumid, thick, subtriangular, blackish-brown, roughly striated; anterior side high, very short, sloped, full; posterior side produced, dorsal margin with a long slope, truncated at the end, very slightly excavated in front of the angle.

LAMARCK. Anim. sans Vert. Cyrena, 10.

Hab. Bengal.

Species 24. (Mus. Brit.)

CYRENA ORNATISSIMA. *Cyr. testā magnā, altissimā, rotundato-subquadratā, subviridē fusci, rugoso-striatā; latere antico brevissimo, subitus umbones excavati, areā sublunulari impresso; umbonibus incurvatis, ferè terminalibus; latere postico subquadrate, radiatim impresso, margine dorsali arcuato, margine terminali sinuato.*

THE CYPRINA-LIKE CYRENA. Shell large, very high, roundly subquadrate, greenish-brown, roughly striated; anterior side very short, excavated under the umboes, impressed with a lunule-like area; umboes incurved, nearly terminal; posterior side rather square, radiately impressed, dorsal margin arched, terminal margin sinuous

GUOU. Voyage de l'Astrolabe. Pl. LXXXII, f. 1-3.
Hab. — ?

Species 25. (Mus. Brit.)

CYRENA TRIANGULARIS. *Cyr. testā trigonā, altissimā, compressā, concentricē tenuiter, minutè undulatā striatā; latere antico brevissimo, versus marginem centralem acuminatione producto, subitus umbones subexcavato, ferè perpendiculariter declivi; umbonibus altissimis; latere postico versus marginem radiatim impresso, margine terminali subtruncato, margine dorsali longè arcuatim declivi.*

THE TRIANGULAR CYRENA. Shell trigonal, very high, compressed, concentrically finely, minutely, wavy striated; anterior side very short, acuminately produced towards the ventral margin, somewhat excavated under the umboes, almost perpendicularly sloped; umboes very high; posterior side radiately impressed not far from the margin, dorsal margin with a long, arched slope.

METCALFE. MS. Cum Coll.

Hab. — ?

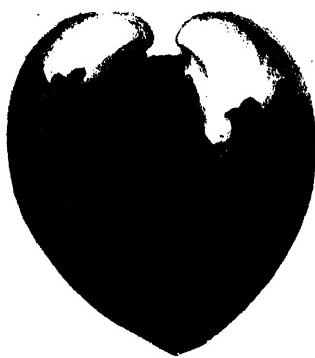
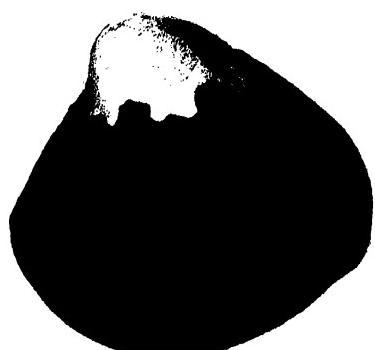
Species 26. (Mus. Brit.)

CYRENA SINUOSA. *Cyr. testā subquadratā, altiusculā, ponderosā, epidermide fusco-nigrescenti rugoso-striatā inoluta; latere antico brevi, infra subrotundā; umbonibus ferè terminalibus; latere postico producto, subquadrate, sulcis duobus sinuatis radiatim impressū, margine terminali sinuato, margine dorsali arcuatim declivi.*

THE SINUOUS CYRENA. Shell subquadrate, rather high, ponderous, covered with a blackish-brown roughly-striated epidermis; anterior side short, roundish below, umboes nearly terminal; posterior side produced, rather square, radiately impressed with two sinuated grooves, terminal margin sinuous, dorsal margin sloped with a curve.

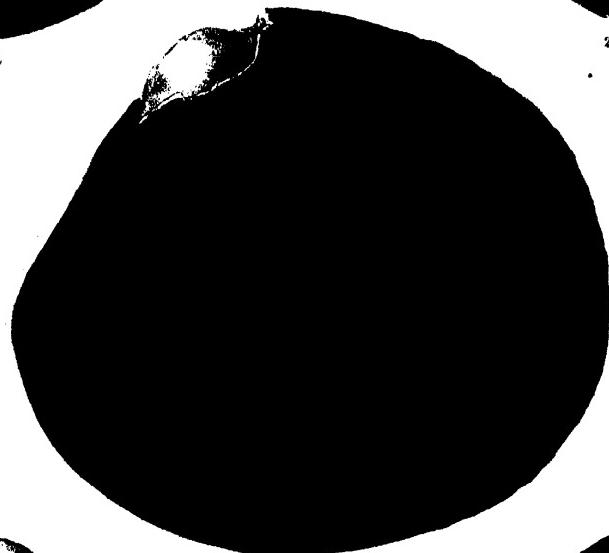
DESHAYES. Proc. Zool. Soc. 1854, p. 18.

Hab. Ceylon.

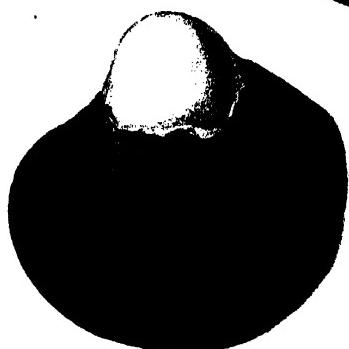


27a

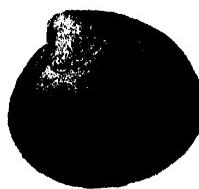
27b



28.



29.



30.

C Y R E N A.

PLATE VIII.

Species 27. (Fig. a, b, Mus. Brit.)

CYRENA CARDIFORMIS. *Cyr. testā tenuiūsculā, subtriangulā, profundā, inflatā; obscurè fuscā, intus unum unum purpureo-nebulatā, extus concentricè subdistanter striatā; latere postico brevi, excavato, areā semilunari impresso; latere postico producto, decliri, ad terminum breviter truncato; umboibus inflatis, rotundis; margine ventrali concavo, prope terminum posticum paulò concavo.*

THE HEART-SHAPED CYRENA. Shell rather thin, subtriangular, deep, inflated; dull brown, sometimes clouded with purple inside, outside concentrically rather distantly striated; posterior side produced, sloped, shortly truncated at the end; umboes inflated, rounded; ventral margin convex, a little concave near the end.

DESHAYES. ——? MS. in Cum. Coll.

Hab. Payta, Peru.

Species 28. (Mus. Brit.)

CYRENA DIVARICATA. *Cyr. testā crassā, tumidiūsculā, nigrescenti, concentricè, undulatim, latè striatā; intus pallidè carnea; latere antico brevissimo, decliri, subexcavato; umboibus depresso, ferè terminalibus, latere postico tumido, angulato, post angulum et paulò ante divaricatum rugato, margine dorsali arcuato.*

THE DIVERGENT CYRENA. Shell thick, rather tumid, nearly black, with concentric undulating broad striae; pale, fleshy within; anterior side very short, sloped, slightly excavated; umboes depressed, almost terminal, posterior side tumid, angular, behind and a little before the angle divergently wrinkled; dorsal margin arched.

DESHAYES. Proc. Zool. Soc. 1874, p. 17.

Hab. New Guinea.

Species 29. (Mus. Brit.)

CYRENA PANAMAENSIS. *Cyr. testā inflatā, globosā, altā, fusco-subviridi, latere antico subtus umboines rotundè excavato, infrā rotundè producto; umboibus elevatis, rotundis; margine ventrali convexo; latere*

postico angulato, ad angulum obscurissimè carinato, areā postangulare cuneatā, planulata.

THE PANAMA CYRENA. Shell inflated, globose, high, greenish-brown; anterior side roundly excavated under the umboes, roundly produced below; umboes elevated, round; ventral margin convex; posterior side angular; very obscurely keeled at the angle, postangular area cornered, flat.

PRIME. ——? MS. Mus. Brit.

Hab. Panama.

Species 30. (Mus. Brit.)

CYRENA MARITIMA. *Cyr. testā inflatā, subglobosā, altissimā, epidermide papyraceā indutā, concentricè striatā; margine dorsali utrinque declivi; latere postico angulato, ad angulum obtuse carinato; umboibus rotundis, inflatis.*

THE MARITIME CYRENA. Shell inflated, subglobose, very high, covered with a papyraceous epidermis, concentrically striated; dorsal margin sloped on each side; posterior side angular, with an obscure keel at the angle; umboes rounded, inflated.

C. B. ADAMS. Proc. Zool. Soc. 1854, p. 355.

Hab. ——?

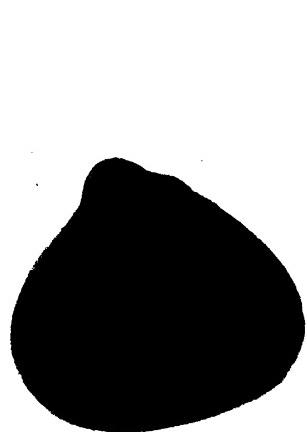
Species 31. (Fig. a and Fig. b, c, Pl. X. Mus. Brit. and Sowerby.)

CYRENA CAROLINENSIS. *Cyr. testā altā, brevi, tumidā, valde inflatā, epidermide rugoso-striatā, olivacea vel pallidè fulvā indutā, intus subtus umboes carnea, ad latera carinatumque purpureo-maculatā et radiatā; latere antico brevissimo, declivi; umboibus altis, tumidis, prominentibus; latere postico lato, substruncato, margine dorsali declivi.*

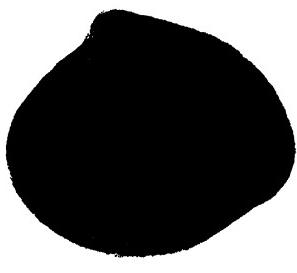
THE CAROLINA CYRENA. Shell raised, short, tumid, much inflated, covered with a roughly striated olive or pale fulvous epidermis, fleshy within, under the umboes spotted and rayed, with purple at the sides and hinge; anterior side very short, sloped; umboes high, tumid, prominent; posterior side broad, slightly truncated, dorsal margin sloped.

BOSC. Nich. Enc. Am. Pl. I. f. 10.

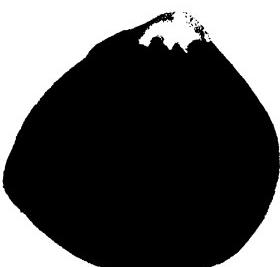
Hab. S. Carolina, N. America.



33.



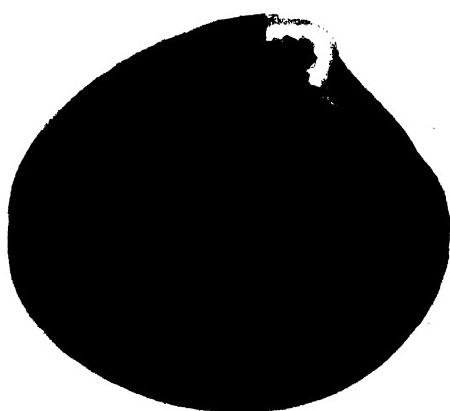
32.



34.



35.



36.

CYRENA.

PLATE IX.

Species 32. (Mus. Sowerby.)

CYRENA OLIVACEA. *Cyr. testa tenui, straminea, subtriangularis, subtrigonata, undulatim striata, intus purpurea, dentibus cardinalibus parvis, lateralibus anticus breviusculis; latere antico declivi; latere postico angulato, margine dorsali declivi, laterali obliquè truncato, infrà acuminato, margine ventrali ante angulum excavato, umbonibus subcentralibus.*

THE OLIVACEOUS CYRENA. Shell thin, straw-coloured, greenish, subtrigonal, undulately striated, inside purple, cardinal teeth small, anterior lateral rather short; anterior side sloped, posterior side angular, dorsal margin sloped, lateral obliquely truncated; acuminate below; ventral margin excavated in front of the angle; umboes nearly central.

CARPENTER. —? MS.

Hab. California.

Species 33. (Mus. Brit.)

CYRENA OBSCURA. *Cyr. testa crassata, trigonata, subcompressa, elevatissima, epidermide nigra, crassata, densè striata inducta; latere antico brevi, subexcavato, areæ lunulari impresso; latere postico angulato, valde declivi, margine ventrali ante angulum subexcavato.*

THE OBSCURE CYRENA. Shell thick, trigonal, somewhat compressed, much elevated, covered with a black, thick, closely striated epidermis; anterior side short, rather excavated, impressed with a lunular area; posterior side angular, much sloped, ventral margin a little hollow in front of the angle.

PRINE. Proc. Zool. Soc. 1860, p. 321.

Hab. New Granada.

Species 34. (Mus. Brit.)

CYRENA FONTAINEI. *Cyr. testa altissimata, subtriangularis, crassata, compressa; densè castanea, striata; latere antico brevi, declivi, margine ventrali rotundo; umbonibus elevatis subacuminatis; latere postico subcuculato angulato, valde declivi, infrà acuminato.*

FONTAINE'S CYRENA. Shell very high, subtrigonal, thick, compressed; deep chestnut, striated; anterior side short, sloped, ventral margin rounded; umboes elevated, rather acuminate; posterior

side rather acutely angular, much sloped, acuminate below.

D'ORBIGNY. —? MS.

Hab. —?

Species 35. (Mus. Brit.)

CYRENA VENTRICOSA. *Cyr. testa subovata, crassa, tumida, pallidè straminea, laevigata; latere antico brevi, rotundata; latere postico producta, margine dorsali declivi, margine terminali truncata, infrà subacute.*

THE VENTRICOSE CYRENA. Shell subovate, thick, tumid, pale straw, smooth; anterior side short, rounded; posterior side produced, dorsal margin sloped, terminal margin slightly truncated.

DESHAYES. Proc. Zool. Soc. 1854, p. 16.

Hab. Australia.

Species 36. (Mus. Brit.)

CYRENA ESSINGTONENSIS. *Cyr. testa ovata, castanea, distanter concentricè fimbriato-striata; latere antico brevi, declivi, areæ lunulari impresso; latere postico producto, margine dorsali arcuato; margine ventrali convexo; umbonibus depresso.*

THE PORT-ESSINGTON CYRENA. Shell ovate, chestnut, distantly concentrically fringe-striated; anterior side short, sloped, impressed with a lunular area; posterior side produced, dorsal margin arched; ventral margin convex; umboes depressed.

DESHAYES. Proc. Zool. Soc. 1854, p. 19.

Hab. Port-Essington, Australia.

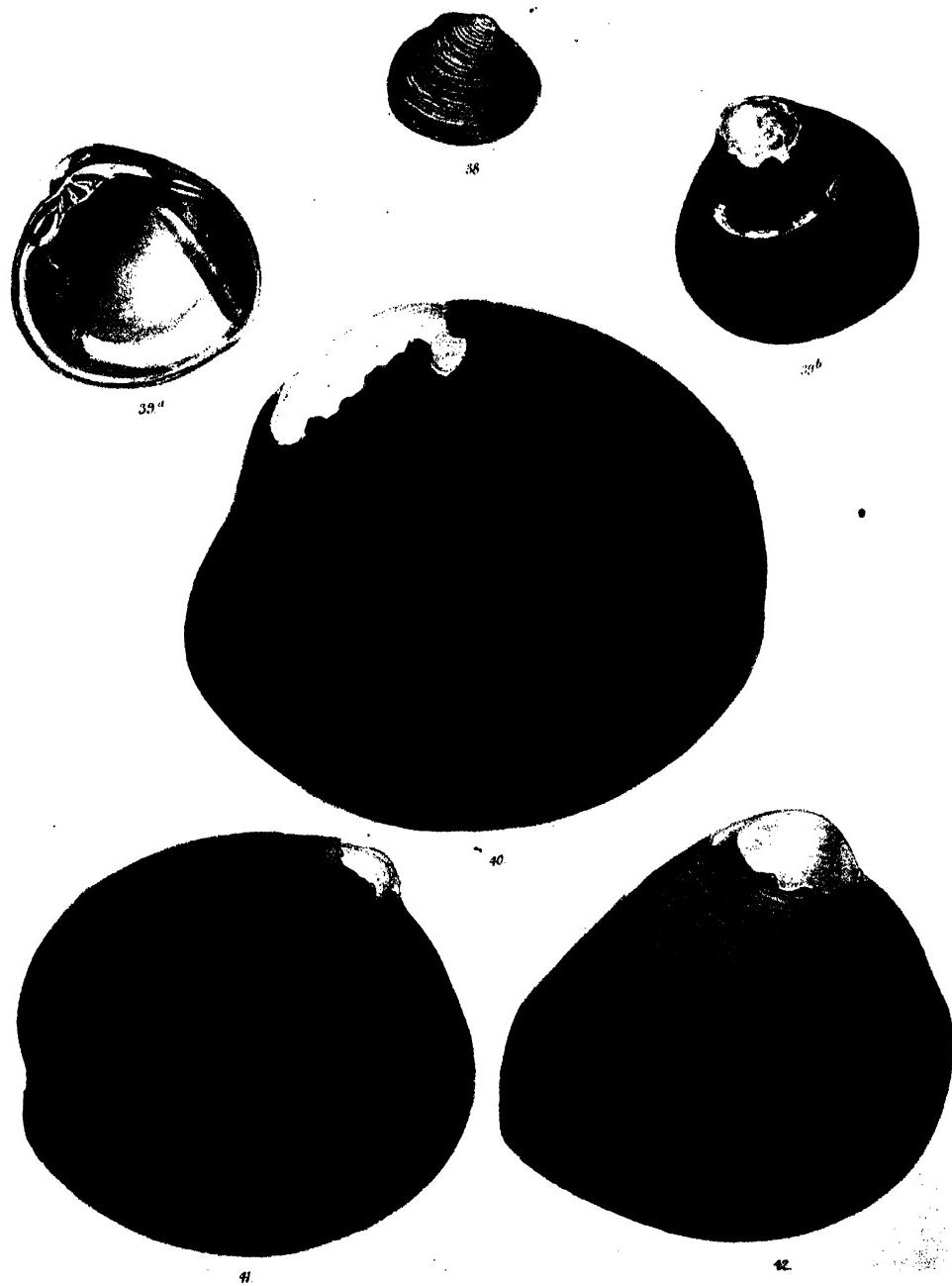
Species 37. (Mus. Brit.)

CYRENA OBLONGA. *Cyr. testa oblongo-ovata, crassa, undulatè subdistanter striata, stramineo-rubescens; latere antico breviusculo, subtus umbones excavato, areæ lunulari impresso; latere postico producto, obscurè angulato, ad terminum truncato, margine dorsali declivi.*

THE OBLONG CYRENA. Shell oblong-ovate, thick, rather distantly wavy striated, reddish straw, anterior side rather short, hollow under the umboes, impressed with a lunular area; posterior side produced, with an obscure angle, truncated at the end; dorsal margin sloped.

DESHAYES. Proc. Zool. Soc. 1854, p. 341.

Hab. —?



C Y R E N A.

PLATE X.

Fig. 31, b, c. CYRENA CAROLINIENSIS. (See Pl. VIII.)

Species 38. (Mus. Brit.)

CYRENA NITIDULA. *Cyr. testâ oratâ, subcompressâ, concentricâ tenuiter striatâ, stramineâ, anticâ breviori, subacuminatâ, posticâ magis expansâ, obtusâ; umbonibus subdepressis, margine dorsali posticâ paulò, anticâ valde declivi.*

THE SHINING LITTLE CYRENA. Shell ovate, subcompressed, concentrically finely-striated, straw-coloured, in front rather short, subacuminated, posteriorly more expanded, obtuse; umboes rather depressed, dorsal margin a little sloped behind, much in front.

DESHAYES. Proc. Zool. Soc. 1854, p. 21.

Hab. —?

Species 39. (Mus. Brit.)

CYRENA SUBLOBATA. *Cyr. testâ magnâ, crassâ, oblongâ, epidermide fused, rugosâ indutâ; latere antico brevissimo, sub umbones areâ lunulari convexâ impresso; latere postico producto, radiatim bisulcato, margine dorsali arcuatâ declivi, margine terminali leviter sinuatâ lobato.*

THE SUBLOBED CYRENA. Shell large, thick, oblong, covered with a brown rough epidermis; anterior side very short, impressed with lunular convex area; posterior side produced, with two radiating grooves, dorsal margin sloped in an arch, terminal margin sinuously slightly lobed.

DESHAYES —? MS. Cum. Col.

Hab. The Louisiade Archipelago.

In some degree like *Cyrena Cyprinoides*, but more oblong, and having a double groove at the back, which gives a lobed character to the posterior margin.

Species 40. (Mus. Brit.)

CYRENA CALEDONICA. *Cyr. testâ subquadrata, crassâ, epidermide crassâ, rugosâ, olivacea-fusca, subdistrictâ striatâ, striae squamoso-fimbriatis; latere antico brevissimo, areâ lunulari impresso, antergone laterali forâ perpendiculari; umbonibus subterminalibus; latere postico subquadrato, antergone dorsali arcuato, antergone terminali sinuato.*

THE CALEDONIAN CYRENA. Shell subquadrate, thick, covered with a thick, rough, olive-brown epidermis, distantly striated, striae with a sealy fringe; anterior side very short, impressed with a lunular area; lateral margin almost perpendicular; umboes nearly terminal; posterior side rather square, dorsal margin arched, terminal margin sinuated.

GASSIES. —? MS. Brit. Mus.

Hab. New Caledonia.

Species 41. (Mus. Brit.)

CYRENA FALLAX. *Cyr. testâ obliquâ subtriangularis, tumidi, medio distanter, ad latéra densè striatâ, sordidè olivacea, prope umbones subgibbosâ; latere anterius brevis, declivi, areâ lunulari, convexâ impressâ; umbonibus elevatis, ovalis, margine dorsali declivi, margine postico-laterali breviter truncato.*

THE FALLACIOUS CYRENA. Shell obliquely subtriangular, tumid, striated distantly in the middle, closely at the sides, dull olive, rather gibbose near the umboes; anterior side short, sloped, lunule, impressed with a convex lunular area, umboes elevated, oval, posterior area sloped, dorsal margin sloped, postero-lateral margin shortly truncated.

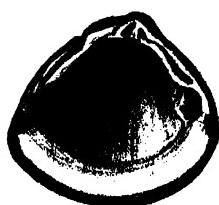
DESHAYES. Proc. Zool. Soc. 1854, p. 15.

Hab. —?





43.



45.



46.



47.



48.



49.



50.

C Y R E N A.

PLATE XI.

(Species 42 inadvertently omitted.)

Species 43. (Mus. Brit.)

CYRENA TRIGONA. *Cyr. testā oratā, subiniquilaterali, stramineā, concentricè tenuiter striatā; latere postico majori, subarcuatim declivi, prope marginem angulato, margine ventrali convexo; latere antico subacuminato, umboibus versus marginem anticum inclinatis; margine antico valde declivi.*

THE TRIGONAL CYRENA. Shell ovate, rather inequilateral, straw-coloured, concentrically finely striated; posterior side the larger, sloped in a slight curve, angular near the margin, ventral margin convex; anterior side slightly acuminated, umboes inclined towards the anterior margin, anterior margin much sloped.

DESHAYES. Proc. Zool. Soc. 1854, p. 344. Hanley, Conch. Ind. Pl. 155.

Hab. Pondicherry.

This is given on the authority of the British Museum (as type) and the Conch. Ind., but the shell is far from being of a trigonal form.

Species 44. (Mus. Brit.)

CYRENA BENSONI. *Cyr. testā subovatā, subcompressā, stramineā, tenuissimè radiatā, tenuiter undulatim concentricè rugatā, arquilaterali; latere antico prope marginem angulato; latere postico angulato, ad angulum divaricatin rugatā; umboibus centralibus intus extisque rubris.*

BENSON'S CYRENA. Shell subovate, subcompressed, straw-coloured, very finely rayed, wrinkled with fine concentric undulations, equilateral; anterior side angulated near the margin; posterior side angular, divergently wrinkled at the angle; umboes central, red inside and out.

DESHAYES. Proc. Zool. Soc. 1876, p. 345.
Hab. River Jumna.

Said to be notable for its general smoothness. To the writer it appears most remarkable for the acutely angular diverging wrinkles on the posterior angle.

Species 45. (Mus. Hanley)

CYRENA IRAVADICA. *Cyr. testā trigono-subovatā, altā, ventricosā, concentricè profundè rugatā, ad umboboies carulatā; infrā olivaceā, intus purpureā, umboibus subcentralibus, elevatis, margine dorsali utrinque declivi; margine ventrali validè convexo.*

THE IRAWADDY CYRENA. Shell trigono-subovate, elevated, ventricose, concentrically deeply rugose, blue at the umboes, olivaceous below, purple within; umboes nearly central, raised, dorsal margin sloped on each side; ventral margin very convex.

BLANDFORD. MS. Hanley. Conch. Ind. Pl. 155.
Hab. River Irawaddy, Pegu, Ava.

Species 46. (F. a, b, Mus. Sowerby.)

CYRENA EROSA. *Cyr. testā altissimā, solidissimā, subaequilaterali, trigonā; intus omnino, prope marginem densissimè purpuratā, dentibus lateralibus elongatis, serratis, cardinalibus tribus, elongatis; latere antico breviuscule, areā semilunatā, planulatā, latere postico infrā subproducto, umboibus elevatisimis; liris concentricis distantibus, tenuibus.*

THE TRIANGULAR CYRENA. Shell very high, rather solid, subequilateral, trigonal, purpled within all over, very deeply near the margin; lateral teeth elongated, serrated; cardinal three; anterior side rather short, with a semilunar, flattened area; posterior side a little produced below, umboes much raised; concentric ridges distant, thin.

DESHAYES. MS. Proc. Zool. 1854, p. 354.

Cyrena triangularis. Deshayes?

Hab. —?

Species 47. (a, b, Mus. Sowerby.)

CYRENA RADIATA. *Cyr. testā altd, obliquè subtrigonā, tumidā, regulariter subdisunter liratā, intus utrinque radiatim purpureo-fusciatā; latere antico breviuscule, areā depresso, lunulari; latere postico obliquè paulò producto, radiatim angulato; umboibus elevatis, acuminatis, marginibus lateraliūs declivibus.*

CYRENA.—PLATE XI.

THE RAYED CYRENA. Shell elevated, obliquely sub-trigonal, tumid, regularly rather distantly ridged, radiately banded within on each side with purple; anterior side rather short, with a depressed lunular area; posterior side a little produced obliquely, radiately angular; umboes elevated, acuminate, lateral margins sloped.

HANLEY. —? MS.

Hab. —?

Species 48. (Mus. Hanley.)

CYRENA OCCIDENTIS. *Cyr. testā ovatā, subcompressā, subdepressā, inaequilaterali, liris subdistantibus, regularibus concentricè rugatā; intūs purpureā, subtus umbones triradiatā; apice caruleo; epidermide nitenti, subviridi; latere antico breviuscule, caruleo, uniradiato; latere postico paulò producto, subattenuato, ad ternuum subtruncato.*

THE SUN-SET CYRENA. Shell ovate, slightly compressed, slightly depressed, inequilateral, concentrically wrinkled with rather distant, regular ridges; purple within, three-rayed under the umboes; apex blue; epidermis shining, greenish; anterior side rather short, with a single ray of blue; posterior side a little produced, rather attenuated, slightly truncated at the end.

BENSON. Deshayes, Cat. Mus. Brit.

Sikkim, Bundelkund.

The umbral rays from which the name is derived are not always present in the specimens.

Species 49. (Mus. Hanley.)

CYRENA STRIATELLA. *Cyr. testā subovatā, subviridi, subcæruleā, subinflatā; distanter regulariter rugatā; umbonibus moderatè elevatis; intūs purpureā; latere antico breviuscule, rotundo, uniradiato; latere postico producto, subtruncato; margine dorsali utrinque declivi.*

THE SMALL-STRIATED CYRENA. Shell subovate, greenish, rather blue, slightly inflated, distantly regularly wrinkled; umboes moderately raised, purple within; anterior side rather short, rounded, single-rayed; posterior side produced, slightly truncated; dorsal margin sloped on each side.

DESHAYES. Proc. Zool. Soc. 1854, p. 344.

Hab. Pondicherry.

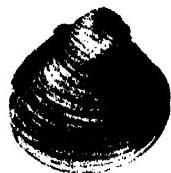
Species 50. (Mus. Hanley.)

CYRENA BENGALENSIS. *Cyr. testā parvā, ovatā, roscofulvā, tenuiter liratā, compressā; latere antico angusto, subacuminato, breviuscule; latere postico paulò magis producto; umbonibus moderatè declivibus.*

THE BENGAL CYRENA. Shell small, ovate, pinky-fulvous, finely ridged, compressed; anterior side narrow, rather acuminate; rather short; posterior side a little more produced; umboes moderately sloped.

DESHAYES. Proc. Zool. Soc. 1854, p. 344.

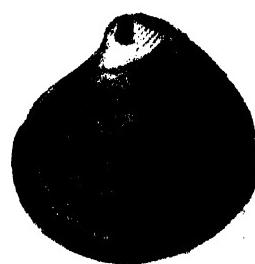
Hab. River Jumna.



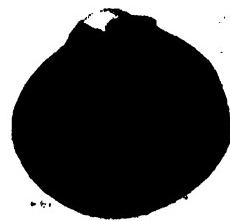
51a



53



51b



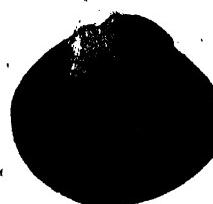
55



56.



57.



C Y R E N A.

PLATE XII.

Species 51. (Fig. a, b, Mus. Brit.)

CYRENA COR. *Cyr. testâ subtriangularâ, crassâ, tumidâ, altâ; aurantio-fusca, vel grisea, purpureo-fasciatâ; tenuiter-sulcatâ; sulcis versus marginem magis numerosis, ad latera excavatis; latere antico brevi, supernè excavato; latere postico producto, angulato, margine dorsali declivi, margine terminali truncato; intus albâ, medio purpureâ.*

THE HEART CYRENA. Shell subtriangular, thick, tumid, high, orange-brown, or grey, banded with purple, finely grooved, grooves more numerous towards the margin, fading off at the sides; anterior side short, excavated above; posterior side prolonged, angular, dorsal margin sloped, terminal margin truncated, white within, purplish in the middle.

LAMARCK. Anim sans Vert.

Cyrena consobrina. Deshayes.

Hab. River Euphrates. (small var.)

Species 52. (Mus. Brit.)

CYRENA RHOMBOIDEA. *Cyr. testâ ovato-subtriangularâ, subdepressâ, supernè regulariter rugata, versus marginem levimarginata, latere postico angulato, post angulum complanato, margine dorsali declivi, latere antico brevi; umbonius elevatus, subobtusus, margine ventrali recte scuto.*

THE RHOMBOIDAL CYRENA. Shell ovate, subtriangular, subdepressed, regularly wrinkled above, rather smooth towards the margin, posterior side angular, flattened behind the angle, dorsal margin sloped; anterior side with umbones raised, rather raised, slightly acuminate, ventral margin rather straight.

PEIME. Catalogue of Corbiculae, 1863.

Hab. Malacca.

Species 53. (Mus. Brit.)

CYRENA CUMINGII. *Cyr. testâ subovata, inflata, tenui, subaurantiâ, tenui distansibus, acutis, non oblique concurrentibus rugata; latere antico brevi, subobundo; latere postico producto, leviter angulato, terminalium truncato, margine dorsali declivi.*

CUMING'S CYRENA. Shell rather oval, inflated, thin, rather orange, wrinkled with distant, sharp, here and there concurrent ridges; anterior side short, rather round; posterior side produced, slightly angular, truncated at the end; dorsal margin sloped.

DESHAYES.

Hab. Philippines.

Species 54. (F. a, b, Mus. Hamley.)

CYRENA ORIENTALIS. *Cyr. testâ solidâ, subtriangularâ, altâ, tenui, crassis, rotundis, rugatis, epidermide nitenti, aurantio-olivaceâ, nigrescenti, intus, intus purpureâ; latere antico brevissimo, margine laterali declivi; latere postico angulato, calde declivi, ad terminum truncato.*

THE ORIENTAL CYRENA. Shell solid, subtriangular, high, wrinkled with thick, rounded ridges; covered with a shining orange-olive blackish epidermis, purple within, anterior side rather short, lateral margin sloped, posterior side angular, much sloped, truncated at the end.

LAMARCK.

Cyrena fluminalis. Müller.

Hab. India, (var. f, b), Japan.

Species 55. (Mus. Brit.)

CYRENA YOKOHAMENSIS. *Cyr. testâ ovalâ, solidâ, subdepressâ, subdistanter concentricâ liratâ; epidermide nitenti, crassâ, nigrescenti intus, intus purpureâ; latere antico brevissimo; latere postico angulato, obliquâ truncato, subacuminato.*

THE YOKOHAMA CYRENA. Shell ovate, solid, rather depressed, rather distantly concentrically ridged; covered with a thick, shining, blackish epidermis, purple within; anterior side very short, posterior side angular, obliquely truncated, rather acuminate.

WERBY.

Hab. Yokohama, Japan.

CYRENA.—PLATE XII.

Species 56. (Mus. Brit.)

CYRENA FLUMINEA. *Cyr. testā subtrigonā, altā, ferè aquilaterali, latā, epidermide subaurantiā levigatā indutā; liris distantibus validis rugatā; umbonibus elevatis, subacuminatis, margine dorsali utrinque declivi; latere postico obscurè angulato, ad terminum truncato; dentibus lateralibus elongatis.*

THE RIVER CYRENA. Shell trigonal, high, nearly equilateral, broad, covered with a smooth, somewhat orange epidermis, wrinkled with distant, strong ridges; umbones raised, slightly acuminate, dorsal margin sloped on each side; posterior side with an obscure angle, truncated at the end; lateral teeth elongated.

LAMARCK. *Anim. sans Vert.* V. VI. p. 274.

Hab. China, &c.

Species 57. (F. a, b, Mus. Hanley and Brit.)

CYRENA PUSILLA. *Cyr. testā parvā, oratā, albidiā, vel purpurascenti, vel fusco-flavidā, subcompressā, medio tumidiā, tenuissimè rugatā; latere antico*

breviūsculo, latere postico magis producto, subtruncato.

THE DWARF CYRENA. Shell small, oval, whitish or purple, or brownish-yellow, rather compressed, tumid in the middle, very finely wrinkled; anterior side rather short; posterior side more produced, slightly truncated.

PHILIPPI. —? Mus. Brit.

Hab. Upper Nile, Syene.

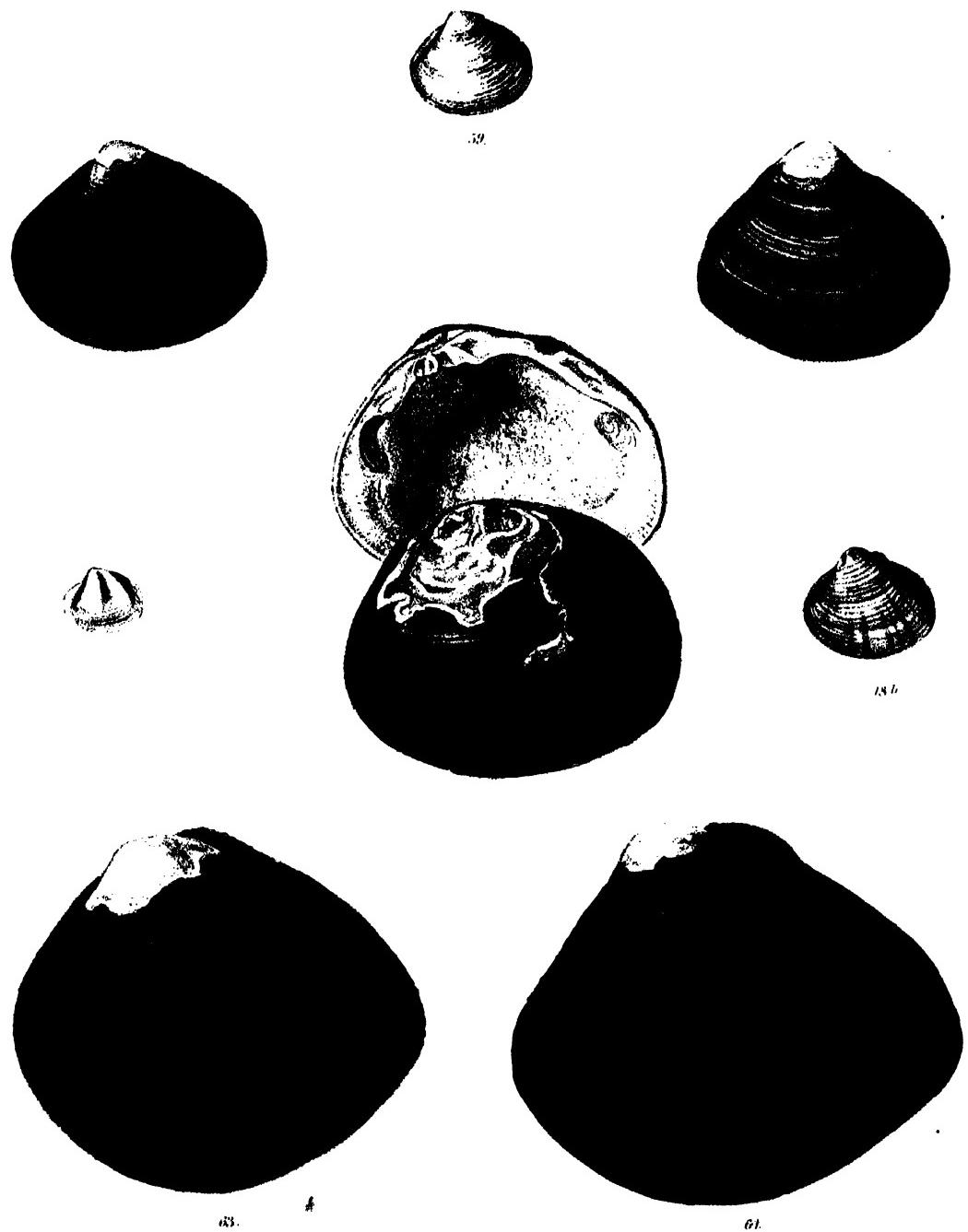
Species 58. (Mus. Brit.)

CYRENA COMPRESSA. *Cyr. testā subovatā, compressā, concentricè leviter rugatā, ad latera levigata, epidermide pallidiā indutā; latere antico breviūsculo, rotundo; latere postico angulato, obliquè truncato, margine dorsali raddè decliri.*

THE FLATTENED CYRENA. Shell subovate, compressed, concentrically slightly wrinkled, smooth at the sides, covered with a pale epidermis, anterior side rather short, round, posterior side angular, truncated, dorsal margin much sloped.

MOUREN. *Bashayes, B. M. Cat.* 1854.

Hab.



C Y R E N A.

PLATE XIII.

Species 59. (Mus. Brit.)

CYRENA AFRICANA. *Cyr. testā subcompressā, subtri-gonā, fuscā, tenuiter concentricè rugatā; intus sordidè violaceā, dentibus lateralibus aequalibus; apice elevato, margine dorsali utrinque declivi; margine postico lateralī subtruncato; sulcis versus marginem suberanidis.*

THE AFRICAN CYRENA. Shell rather compressed, somewhat trigonal, brown, finely concentrically wrinkled, dull violet within; lateral teeth equal; apex raised, dorsal margin sloped downwards on each side, posterior lateral margin somewhat truncated; wrinkles dying out towards the margin.

KRAUSS. Süd-Afrikanischen Mollusken, p. 8, Tab. I. f. 8.

Cyrena Guaritziana. Krauss, in correspondence.

Hab. River Guaritz, South Africa.

Species 60. (Mus. Brit.—Hanley.)

CYRENA CASHMIRENSIS. *Cyr. testā compressā, altā, subtrigonā, regulariter, profundi, et densè concentricè liratā, epidermide fusco-nigricanti indutā; intus densè violaceā, vel albā; umbonibus rotundis, elevatis, margine dorsali utrinque declivi, margine postico-lateralī subtruncato; margine ventrali rotundo; sulcis ad latera evanidis.*

THE CASHMERE CYRENA. Shell compressed, raised, subtrigonal, regularly, deeply, and closely concentrically ridged, covered with a blackish-brown epidermis, deeply violet or white within; umboes rounded, raised, dorsal margin sloped on each side, postero-lateral margin rather truncated, ventral margin rounded; grooves disappearing at the sides.

DESHAYES, PRIM. Pro. Ac. Nat. Sci. Phil. 1854.

Hab. Cashmere.

M. Hanley has a single valve of this shell densely purple within; while the specimens in the British Museum are pure chalky white.

Species 61. (Mus. Sowerby.)

CYRENA LARGILLIERI. *Cyr. testā subtrigonā, tumidā, epidermide stramineo-oliveacei indutā, antice sub-irregulariter rugatā, posticē laciūsculā; intus prope marginem purpureo-fasciato; umbonibus tumidis, purpureo triradiatis, elevatis; margine dorsali utrinque declivi, margine ventrali rotundo; latere postico truncato, subangulato.*

LARGILLIERI'S CYRENA. Shell trigonal, tumid, covered with an olive-straw epidermis, anteriorly somewhat irregularly wrinkled, posteriorly rather more smooth; banded with purple inside near the margin; umboes tumid, three-rayed with purple, raised; ventral margin rounded; posterior side truncated, slightly angular.

PHILIPPI. Zeitschrift für Malak. 1844.

Hab. China.

Species 62. (Mus. Sowerby.)

CYRENA SUMATRENsis. *Cyr. testā subovatā, tumida, concentricè irregulariter rugatā, epidermide olivaceo-fuscā, sulfoliacea indutā; intus albā, medio pallidissimè aurantia, dente cardinali antice brevissimo, postico magis remoto; latere antice brevi, margine dorsali declivi; latere postico magis producto, margine dorsali elevato; umbonibus obtusissimis, depresso.*

THE SUMATRA CYRENA. Shell subovate, tumid, concentrically irregularly wrinkled, covered with an olive-brown slightly leafy epidermis; white within, very pale orange in the middle; anterior or cardinal tooth very short, posterior more remote; ante-side short, dorsal margin sloping; posterio-side more produced, dorsal margin raised; umboes very obtuse, depressed.

SOWERBY. Genera of Shells. No. 2.

Cyrena Saigonensis. —?

Hab. Sumatra.—Saigon, China.

CYRENA—PLATE XIII.

Species 63. (Mus. Brit.)

CYRENA WOODIANA. *Cyr. testâ subovatâ, altâ, obliquâ, epidermide crasso, nitenti, olivaceo-nigricantî, aurantiо-fasciatâ induitâ, medio distanter rugatâ; latere antico brevissimo, margine dorso-lateralis valde declivi; umbonibus elevatis, margine ventrali valde convexo; latere postico producto, angulato, subacuminato, margine ventrali sursùm acclici, margine dorsali longè declivi.*

WOOD'S CYRENA. Shell subovate, high, oblique, covered with a thick, shining, blackish-olive epidermis, banded with orange, distantly wrinkled in the middle; anterior side very short, dorso-lateral margin much sloped; umboes raised, ventral margin very convex; posterior side produced, angular, slightly acuminate, ventral margin sloped upwards, dorsal margin with a long slope.

LEA. Trans. Amer. Phil. Soc. 1832.

Cyrena Primeana. Mörcb.

Hab. China.

Cyrena similis, Gray, and *Cyrena grandis*, Deshayes, both resemble this species, which, however, is much more oval and higher than either. The first-named is a more triangular shell with a radiated angle, while the second holds a middle station between the other two.

Species 64. (Mus. Brit.)

CYRENA SIMILIS. *Cyr. testâ ponderosâ, subtrigonâ, tumidâ, irregulariter rugatâ, epidermide ferruginea, striatâ induitâ; latere antico brevi, latere dorsali declivi; latere postico producto, acuminato, subrostrato, angulato, margine lateralí longè decliri.*

THE SIMILAR CYRENA. Shell ponderous, subtriangular, tumid, irregularly wrinkled, covered with a ferruginous, striated epidermis; anterior side short, dorsal margin sloped downwards; posterior side produced, acuminate, somewhat beaked, angular; dorsal margin with a long slope.

GRAY. Griffith's Cuvier. 1834.

Hab. Philippines.

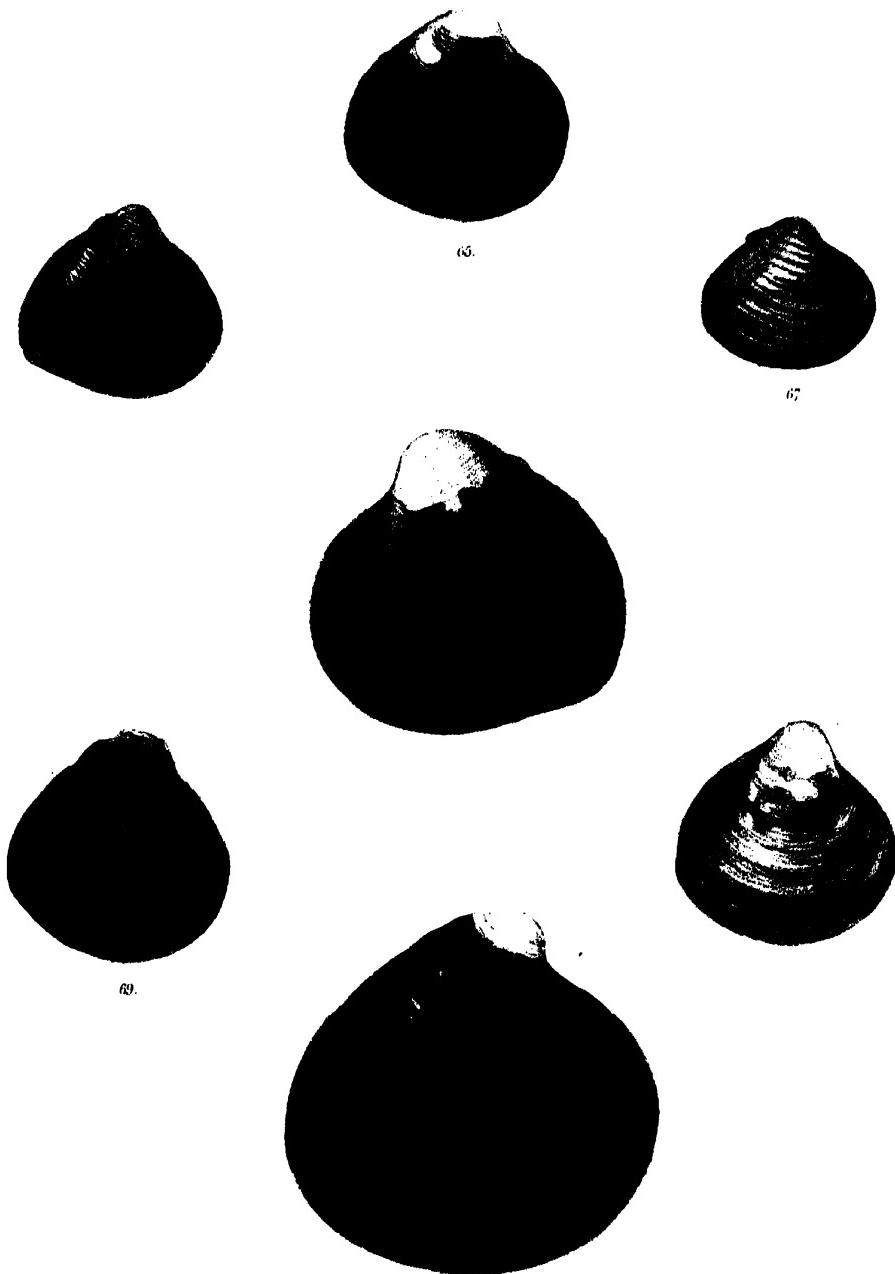
See remark on the preceding species.

Fig. 47, c. (Mus. Hanley.)

CYRENA RADIATA. Young. See Plate XI. for species.

Fig. 48, b. (Mus. Brit.)

CYRENA OCCIDENTIS var. See Plate XI. for species.



C Y R E N A.

PLATE XIV.

Species 65. (Mus. Brit.)

CYRENA RIVALIS. *Cyr. testū subtrigoniā, solidā, altā, regulariter līris approximatis ad latera evanidis concentricā rugatā; epidermide densē olivaceo-nigrificanti indutā; latere antico rotundato; infra umbones excavato; latere postico angulato, obliquè truncato; umbonibus prominentibus, subroseis.*

THE RIVER CYRENA. Shell subtrigonal, solid, high, regularly concentrically wrinkled with approximate ridges, obsolete at the sides; covered with a dark blackish-olive epidermis; anterior side rounded, excavated near the umboes; posterior side angular, obliquely truncated; umboes prominent, rather pink.

VON BUSCH. Phil. Abild. III. 110, Pl. 3. 1849.

Hab. Java.

Species 66. (Mus. Sowerby.)

CYRENA CONCINNA. *Cyr. testū griseā, fuscā, tumidisimā, subtrigoniā, solidā, altā, līris crebris, profundis, ad latera continuis rugatā, intūs pallidè violacea, ad latera purpureo bistratiā; latere antico brevi, tumidissimo, infra umbones excavato; latere postico producto, subacuminato, angulato, ad terminum subtruncato, subrostrato.*

THE NEAT CYRENA. Shell greyish-brown, very tumid, subtrigonal, solid, high, wrinkled with close, deep ribs continued at the sides, pale violet within, with a purple ray at each side; anterior side short, very tumid, excavated at the umboes; posterior side produced, slightly acuminate, angular, subtruncated, and beaked at the end.

SOWERBY.

Hab. —?

I have seen only one specimen of this species. Its locality is unknown.

Species 67. (Mus. Hanley.)

CYRENA GRACILIS. *Cyr. testū tumidiā, depressed, ovalā, tenui, līris irregularibus, majusculis, distantibus, concentricis, ad latera obsoletis, rugatā, epidermide*

aurantio-subiridi indutā, intūs ad marginem cardinalē purpureā, versus marginem flavidā; latere postico producto, rix truncato, subacuminato, latere antico rotundo, infra umbones excavato; umbonibus roseis, obtusis.

THE SLENDER CYRENA. Shell tumid, depressed, ovate, thin, wrinkled with irregular, rather large, distant, concentric ridges, obsolete at the sides, covered with a greenish-orange epidermis, inside purple at the hinge margin, yellowish towards the margin; posterior side produced, scarcely truncated, subacuminated, anterior side rounded, excavated beneath the umboes; umboes pinkish, obtuse.

PRIME. American Journal of Conchology, X. 389. 1862.

Hab. Java.

Species 68. (Mus. Brit.)

CYRENA BULLATA. *Cyr. testū altā, tumidissimā, brevisculptū, epidermide rugosā, tenuiter striatā fumosa; fuscā indutā; latere antico brevi, subrotunda, latere postico magis producto, obtusè angulata, margine dorsali declivi; umbonibus oratis, obtusissimis; margine centrali concavo.*

THE BULLATED CYRENA. Shell high, very tumid, rather short, covered with a rough, finely striated smoky-brown epidermis; anterior side short, rather round; posterior side more produced, obtusely angular; dorsal margin sloped; umboes oval, very obtuse; ventral margin convex.

SOWERBY.

Cyrena insignis. Deshayes.

Hab. California.

Having already figured a species of Cyrena (*Batissea*) under the name of *insignis*, Deshayes, we cannot repeat the name in a second division of what we regard as the same genus.

Species 69. (Mus. Brit.)

CYRENA CYRENIFORMIS. *Cyr. testū crassā, altissimā, subtrigoniā, tumidiā, subobliquā, distanter rugatā,*

CYRENA.—PLATE XIV.

epidermide levigatâ fusco-subviridi, intus violaceâ; latere postico obliquè producto, angulato, versus marginem levigato; latere antico brevi, declivi, infra umbones areâ levigatâ lunulato; umbonibus productis.

THE CRENIFORM CYRENA. Shell thick, very high, subtrigonal, tumid, rather oblique, distantly wrinkled, covered with a smooth, greenish-brown epidermis, violet within; posterior side obliquely produced, angular, smooth towards the margin; anterior side short, sloped, with a smooth lunular area; umbones produced.

PRIME ——? (Corbicula) MS. Brit. Mus.

Hab. ——?

It would be better to avoid giving such specific names to species of very closely allied genera as cannot with propriety be used when the genera are considered as one. Such tautologies as the ‘*Cyrena-shaped Cyrena*’ would not then occur.

Species 70. (Mus. Hanley.)

CYRENA SULCATINA. *Cyr. testâ subtrigonâ, roseo-purpureâ, altâ, tenuissimâ sulcatâ striatâ, posticè et ad latera loci nascendâ, epidermide stramineâ tunditâ, intus purpureo marginatâ; umbonibus elevatis, margine dorsali utrinque declivi, infra umbones areâ pallidâ, planulatâ; anticè subexcavatâ; marginie ventrali convexo.*

THE FINE-GROOVED CYRENA. Shell subtrigonal, purplish-pink, high, very finely groove-striated, posteriorly and at the sides rather smooth, covered with a straw-coloured epidermis, purple-bordered within; umbones elevated, dorsal margin sloped on each side with a pale, flattened area, slightly excavated anteriorly; ventral margin convex.

DESHAYES. Proc. Zool. Soc. London. 1864.

Hab. China.

Species 71. (Mus. Brit.)

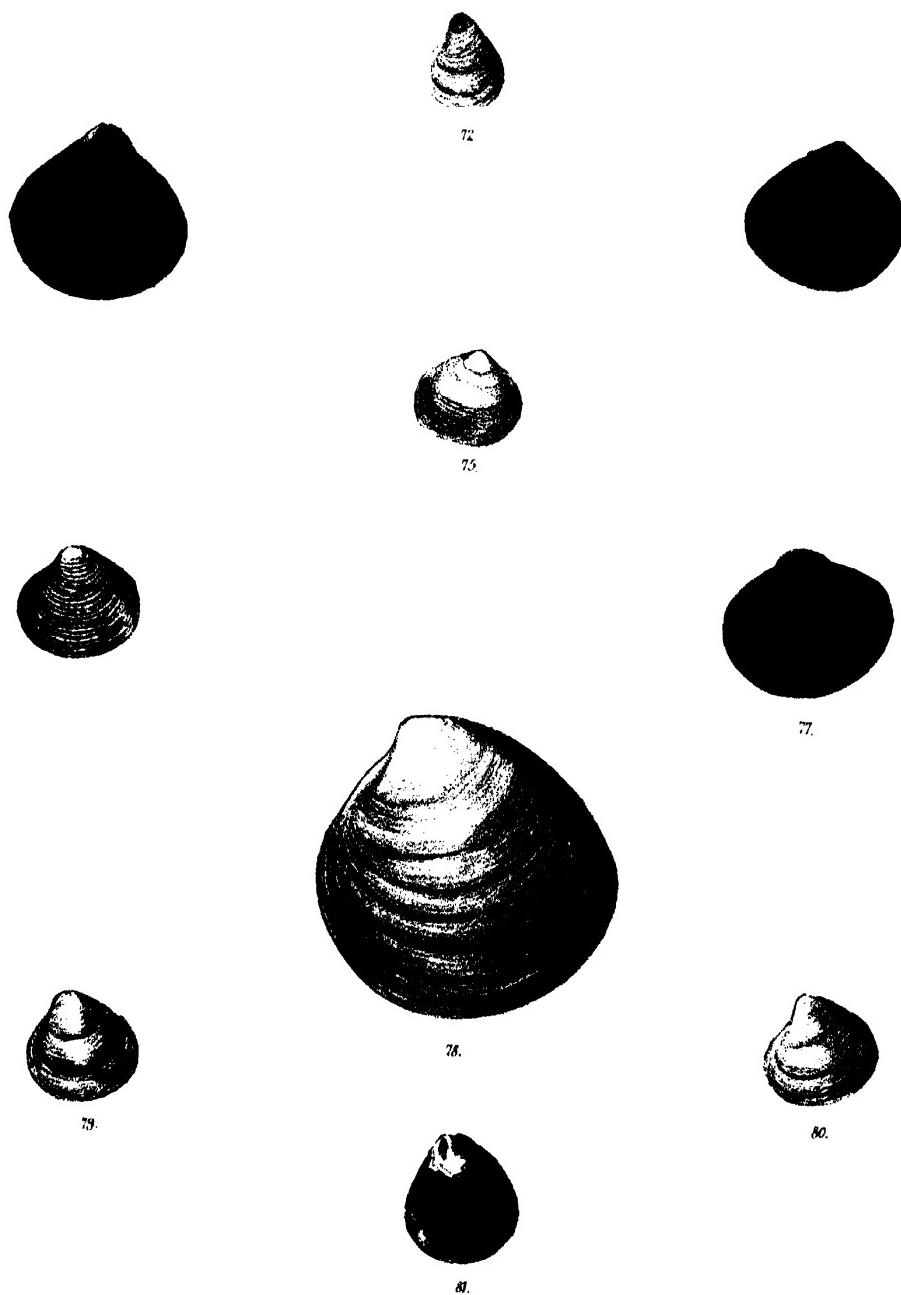
CYRENA GRANDIS. *Cyr. testâ magnâ, ovato-subtrigonâ, irregulariter rugatâ, subcompressâ, intus et ad umbones roseo-aurantia; latere antico brevi; latere postico acuminato, angulato; margine ventrali vallâ convexo; margine dorsali utrinque declivi.*

THE LARGE CYRENA. Shell large, ovate-subtrigonal, irregularly wrinkled, compressed within and at the umbones pinky orange; anterior side short; posterior side acuminated, angular; ventral margin convex; dorsal margin sloped on each side.

DESHAYES ——? MS. Brit. Mus.

Hab. ——?

About half way in character between *C. Windwardiana* and the more beaked and acuminated *C. similis*.



C Y R E N A.

PLATE XV.

Species 72. (Mus. Brit.)

CYRENA GRASSULA. *Cyr. testā altissimā, subtrigonā, angustatā, subarenatā, tenuiter liratā, crassā, epidermide olivaceo-indutā, ad apicem intusque cœruleā, violacea; latere postico arenato, prope marginem lateralem angulato; latere antico subexcavato; umbonibus incurvatis fere lateraliter terminalibus.*

THE THICK CYRENA. Shell very high, subtrigonal, narrow, rather arched, finely ridged, thick, covered with an olive epidermis; bluish at the tip and inside; posterior side arched, angular near the margin; anterior side somewhat excavated; umboes curved inwards, almost terminal at the side.

MOUSSON —? MS. in Brit. Mus.

Hab. Lebanon.

Species 73. (Mus. Brit.)

CYRENA AMBIGUA. *Cyr. testā subtrigonā, subequilaterali, olivaceo-nigranti, moderatè tumidiā, tenuiter liratā; latere antico declivi, subtrotundo; latere postico declivi, obscurè biangulato.*

THE AMBIGUOUS CYRENA. Shell subtrigonal, blackish-olive, moderately tumid, finely ridged; anterior side sloped downwards, rather round; posterior side sloped downwards, with two obscure angles.

DESHAYES. Proc. Zool. Soc. London. XXII. p. 345.

Hab. River Euphrates.

Species 74. (Mus. Sowerby.)

CYRENA MANILLENSIS. *Cyr. testā crassā, subrhomboidā, distanter liratā, versus umbones griseā, versus marginem subaurantiā, intus albū cœrulecenti, epidermide nitenti indutā; latere antico brevi, margine dorsali declivi, laterali brevi, truncato; latere postico producto, margine dorsali declivi, terminali truncato; umbonibus rotundis.*

THE MANILLA CYRENA. Shell thick, rather rhomboidal, distantly grooved, grey towards the umboes, somewhat orange, bluish-white within,

covered with a shining epidermis; anterior side short, dorsal margin sloped, lateral short, truncated; posterior side produced, dorsal margin sloped, terminal, truncated; umboes round.

PHILIPPI. Abild. Zeit. f. Malak. 1841.

Hab. Manilla.

Species 75. (Mus. Brit.)

CYRENA NEPEANENSIS. *Cyr. testā subrhomboidē, fuscā vel aurantiā, rectā, levigatā, compressā; laterē antico breviangulo; laterē postico magis productō, latē truncatō; apice parco, subacuminatō, margine dorsali utrinque leviter declivī; margine ventrali rectiangulo.*

THE NEPEAN CYRENA. Shell rather rhomboidal, brown or orange, straight, smooth, compressed; anterior side rather short; posterior side more produced, broadly truncated; apex small, somewhat acuminated; dorsal margin slightly sloped on each side; ventral margin rather straight.

LESSON —? MS. Brit. Mus.

Hab. River Nepea.

Species 76. (Mus. Brit.)

CYRENA REGULARIS. *Cyr. testā pallidā, subovatā, subdepressā, regulariter erubrē liratā; latere antico breviangulo, subacuminatō, infra umbones excavatō; latere postico latē truncatō, margine dorsali declivī; umbonibus obtusis, depressis.*

THE REGULAR CYRENA. Shell pale, rather oval, rather depressed, regularly, closely ridged; anterior side rather short, slightly acuminated, excavated below the umboes; posterior side broadly truncated, dorsal margin sloped; umboes obtuse, depressed.

PRIME —? MS. Brit. Mus.

Hab. —?

Species 77. (Mus. Brit.)

CYRENA OVALINA. *Cyr. testā ovalā, tumidiā, epidermide nitenti, nigrescenti indutā, rugis distantibus, sup-*

CYRENA.—PLATE XV.

rioribus validis, continuis, versus marginem ventraliem eranidis, posticè obsolete indutâ; latere antico brevissculo, rotundo; latere postico producto, latè truncato; umboibus obtusissimis, margine dorsali utriusque levigato, margine ventrali aequaliter convexo.

THE OVAL CYRENA. Shell ovate, tumid, covered with a shining, blackish epidermis dying out towards the ventral margin, posteriorly obsolete; anterior side rather short, rounded; posterior side produced, broadly truncated; umbones very obtuse, dorsal margin smooth on each side, ventral margin equally convex.

DESHAYES. Proc. Zool. Soc. 1854, p. 343.

Hab. Port Essington, Australia.

Species 78. (Mus. Brit.)

CYRENA MAXIMA. *Cyr. testâ subtrigonâ, altissimâ, sub-compressâ, levi, rugis paucis, distantibus, posticè eranidis irregulariter cinctâ; epidermide flavido-subaurantia indutâ; latere antico brevi, arrâ lunulari convexâ; latere postico producto, infra medium acutuato, margine dorsali longè declivi, convexa; umboibus elevatis; margine ventrali prominenter convexa.*

THE VERY LARGE CYRENA. Shell rather trigonal, very high, rather compressed, smooth, irregularly belted with few, distant wrinkles disappearing posteriorly, covered with a yellowish-orange epidermis; anterior side short, lunular area convex; posterior side produced, acuminated below the middle, dorsal margin with a long slope, convex; umbones raised; ventral margin prominently convex.

DESHAYES. Proc. Zool. Soc. 1860, p. 321.

Hab. —?

Species 79. (Mus. Brit.)

CYRENA BRAZILIANA. *Cyr. testâ altâ, tenuissimè liratâ, subrotundâ, intus alba; latere antico rotundo, brevi; latere postico obliquè producto, margine dorsali longè declivi; epidermide aurantio-stramineâ, castanea angustè fasciatâ, umboibus elevatis, versus laterem anticum declinatis.*

THE BRAZILIAN CYRENA. Shell high, very finely grooved, rather rounded; white within, anterior side rounded, short; posterior side obliquely produced, dorsal margin with a long slope; epidermis orange-straw, with narrow bands of chestnut; umbones raised, turned towards the anterior side.

DESHAYES. Cat. Brit. Mus. 1854.

Hab. Brazil.

Species 80. (Mus. Brit.)

CYRENA TENUISTRATATA. *Cyr. testâ subtrigonâ, altâ, pallidè fulvâ, ferè levigatâ, compressâ, obscurè tenuissimè striatâ; latere antico brevi, usque ad marginem ventralem declivi, margine centrali rotundo, producto, latere postico declivè, producto, infra medium subacuminato, margine ventrali sursim acclivi; umboibus elevatis.*

THE FINE-STRIATED CYRENA. Shell subtrigonal, high, pale fulvous, almost smooth, compressed, obscurely, very finely striated; anterior side short, sloped down to the ventral margin; ventral margin round, produced, posterior side sloped downwards, produced, slightly acuminated below the middle, ventral margin sloped upwards; umbones elevated.

PRIME. Proc. Zool. Soc. 1860, p. 323.

Hab. —?

Species 81. (Mus. Brit.)

CYRENA PARACENSIS. *Cyr. testâ altissimâ, angustâ, liris irregularibus posticè eranidis rugatâ, obscurè olivaceâ, intus purpureâ; latere antico brevissimo, margine lateralî rectiunculo; latere postico, margine dorsali breviter declivi, margine lateralî obliquè declivi; margine ventrali subconvexo.*

THE PARACA CYRENA. Shell very elevated, narrow, wrinkled with irregular ridges, posteriorly fading, obscurely olivaceous, purple within; anterior side very short, lateral margin rather straight; posterior side, dorsal margin shortly sloped, lateral margin obliquely sloped; ventral margin rather convex.

D'ORBIGNY —? MS. Brit. Mus.

Hab. Paraca.





85.



86.



88.



87b.



89.

C Y R E N A.

PLATE XVI.

Species 82. (Fig. a, b, Mus. Brit.)

CYRENA AUSTRALIS. *Cyr. testâ ovato-subtrigonâ, depresso, compressâ, pallidissimè fumoso-fulvâ, vel fuscâ, vel aurantiâ, irregulariter et leviter rugatâ; latere antico brevi, margine latero-dorsali declini, levigatâ; latere postico producto, infra medium acuminato, margine dorso-lateralî convexiâculo, declivi, levigato.*

THE AUSTRALIAN CYRENA. Shell ovate-subtrigonal, depressed, compressed, very pale smoky-fulvous, or brown, or orange, irregularly and slightly wrinkled ; anterior side short, latero-dorsal margin sloped, smooth ; posterior side produced, acuminate below the middle, dorso-lateral margin rather convex, sloped, smooth.

DESHAYES. Ed. Lamarck.

Hab. Isl. of Timor.

Species 83. (Mus. Brit.)

CYRENA LYDIGIANA. *Cyr. testâ tumidâ, subrotundâ, altitudine latitudinem aequanti, aequilaterali, rugulariter subaequaliter et subdistanter rugatâ, infrâ griseo-subviridi, suprà nigricanti, castaneo radiatâ, intus densè violaceâ; umbonibus rotundis, elevatis, margine dorsali utringue declivi; latere postico infra medium subacuminato.*

THE LYDIG CYRENA. Shell tumid, rather rounded, the height equalling the breadth, equilateral, regularly rather equally and distantly wrinkled, greyish-green below, blackish above, rayed with chestnut, deep purple within ; umboes rounded, raised, dorsal margin sloped on each side ; posterior side rather acuminate below the middle.

PRINCE. Cal. Corb. 3. 1863.

Hab. Siam.

Species 84. (Mus. Brit.)

CYRENA SEMISULCATA. *Cyr. testâ oblongâ, depressâ, ferè levigatâ, leviter partim rugatâ, obscurè fulvâ, cæruleo-fasciatâ, intus densè purpureâ; latere antico brevissimo, infra umbones subexcavato, margine dorsali valde declivi; latere postico*

producto, oblongo, margine dorsali leviter declivi, margine laterali latè truncato.

THE HALF-GROOVED CYRENA. Shell oblong, depressed, almost smooth, slightly wrinkled in parts, dull fulvous, banded with blue, deep purple within ; anterior side very short, slightly hollow under the umboes, dorsal margin much sloped ; posterior side produced, oblong, dorsal margin slightly sloped, lateral margin broadly truncated.

DESHAYES. Proc. Zool. Soc. 1854, p. 343.

Hab. Pondicherry.

Species 85. (Mus. Brit.)

CYRENA OBSOLETA. *Cyr. testâ obliquâ trigonâ, altâ, tenuissimè striatâ, compressâ, supernè subviridi, medio rufo-fuscâ, inbis purpureâ; latere antico brevi, valde declivi; umbonibus elevatis, subacuminatis, margine ventrali convexâ; latere postico producto, declivi, infra medium acuminato.*

THE OBSOLETE CYRENA. Shell obliquely trigonal, high, very finely striated, compressed, greenish above, reddish-brown in the middle, purple within ; anterior side short, much sloped ; posterior side produced ; umboes raised, somewhat acuminate, ventral margin convex ; posterior side produced, sloped, acuminate below the middle.

DESHAYES. Proc. Zool. Soc. 1854, p. 343.

Hab. — ?

Species 86. (Mus. Brit.)

CYRENA INCRASSATA. *Cyr. testâ subovatâ, depressâ, crassâ, subcompressâ, densè fuscâ subviridi, tenuissimè striatâ, ferè levigatâ, anticè distantter tenuiter rugatâ; latere antico brevissimo, infra umbones excavato; umbonibus anticè inclinatis, depressis; latere postico producto, acuminato, margine arcuatim declivi.*

THE THICKENED CYRENA. Shell rather oval, depressed, thick, slightly compressed, dark greenish-brown, very finely striated, almost smooth, with distant slender wrinkles ; anterior side very short, hol-

CYRENA.—PLATE XVI.

low under the umboes; umboes leaning to the front, depressed; posterior side produced, acuminated, margin sloped in an arch.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.

Hab. —?

Species 87. (Fig. a, b, Mus. Brit.)

CYRENA VARIEGATA. *Cyr. testā altā, subrotundā, tenui, subviridi et nigri, vel subaurantiā, nebulis radiisque variegatā, tenuissimè striatā, vix rugatā, latere postico producto, rotundo, latere antico brevissimo.*

THE VARIEGATED CYRENA. Shell high, rather rounded, thin, greenish or black, or rather orange, variegated with clouds and rays of purple, very finely striated, scarcely wrinkled, posterior side produced, rounded, anterior side very short.

DESHAYES. MS. Mus. Cuming.

Hab. La Plata.

Species 88. (Mus. Sowerby.)

CYRENA MALLACENSIS. *Cyr. testā tenui, subrhomboideā, fumoso olivaceā, nitenti, regulariter, distanter, acutē rugatā, intus albā; latere antico brevi, declivi; latere postico producto, obliquè truncato.*

THE MALACCA CYRENA. Shell thin, subrhomboidal, smoky-olive, shining, regularly, distantly, sharply wrinkled, white within; anterior side short, sloped; posterior side produced, obliquely truncated.

DESHAYES. Proc. Zool. Soc. 1854, p. 343.

Hab. Malacca.

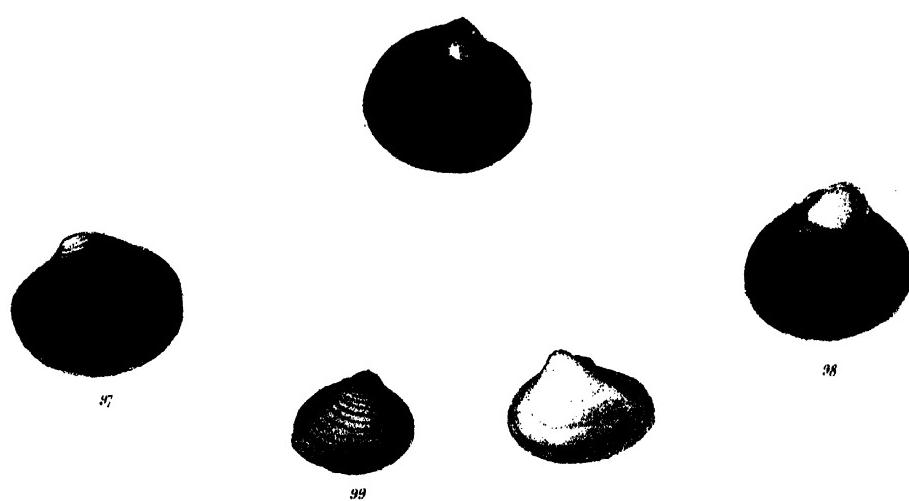
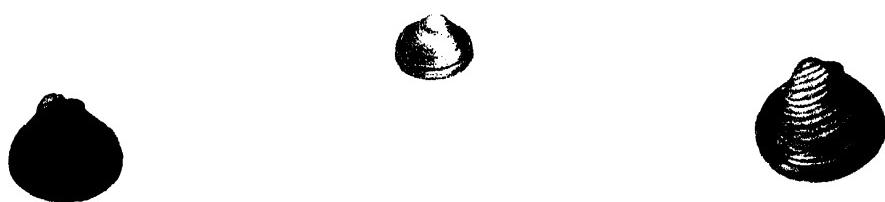
Species 89. (Mus. Hanley.)

CYRENA NITENS. *Cyr. testā subaurantiā, nitenti, compressā, subdepressā, obliquè trigonā, tenuiter sulcata, intus et ad umboes subroseā; latere antico brevi, rectiūsculo, valde declivi; latere postico obliquè producto, margine dorsali longè decliri, ad marginem centralem acuminato; margine ventrali rectiūsculo.*

THE SHINING CYRENA. Shell rather orange, shining, compressed, rather depressed, obliquely trigonal, finely grooved, rather pink at the umboes; anterior side short, rather straight, much sloped; posterior side obliquely produced, dorsal margin with a long slope, acuminated at the ventral margin; ventral margin rather straight.

DESHAYES. MS. Cum. Coll.

Hab. —?



Vincent Brooks Day 1937

C Y R E N A

PLATE XVII.

Species 90. (Mus. Hanley.)

CYRENA ANGASI. *Cyr. testū ovato-oblongā, subrhomboidē, tenui, depressā, subcompressā, intūs et ad apicem subroseā vel cinereā, epidermide flavidā tenui indutā; latere antico brevi, angustè subtruncato; latere postico producto, obtusè angulato, latè truncato.*

ANGAS'S CYRENA. Shell ovate-oblong, somewhat rhomboidal, thin, depressed, rather compressed, pinky or ashy within and at the apex, covered with a thin yellowish epidermis; anterior side short, narrowly subtruncated; posterior side produced, obtusely angular, broadly truncated.

PRIME. Cat. Corb. 1863, p. 4.

Hab. Murray River, South Australia.

Species 91. (Mus. Hanley.)

CYRENA JAPONICA. *Cyr. testū altā, trigonā, compressā, subsolidā, nitenti, fumoso-castaneā, sulcis partim obsoletis rugatā; intūs versus apicem purpureo striatā, ad latera marginemque carnea; latere antico valdē declivi, breviori, latere postico obtusè angulato, obliquè truncato, supernè declivi.*

THE JAPAN CYRENA. Shell high, trigonal, compressed, rather solid, shining, smoky chestnut, wrinkled, with partly obsolete grooves, striped with purple inside towards the apex, bluish at the sides and edge; anterior side much sloped, shorter; posterior side obtusely angular, obliquely truncated, supernè declivi.

PRIME. Ann. Lyc. New York, 1864.

Hab. Japan.

A beautiful little shell, having much the aspect of a young *Oytherea*.

Species 92. (Mus. Hanley.)

CYRENA TUMIDA. *Cyr. testū subtrigonā, altā, tenui, subequilaterali, tumidā, irregulariter distanter rugatā, ad latera purpureo-fuscā, epidermide aurantiā indutā, intūs et ad apicem densè purpureā; latere postico longiusculo, obtusissimā angulato.*

THE TUMID CYRENA. Shell trigonal, high, thin, somewhat equilateral, tumid, irregularly distantly

wrinkled, purple-brown at the sides, covered with an orange-brown epidermis, deep purple within and at the apex; posterior side rather long, very obtusely angular.

DESHAYES. Proc. Zool. 1854, p. 343.

Hab. Borneo.

Species 93. (Mus. Hanley.)

CYRENA ARATA. *Cyr. testū ovatā, tenuissimā, rosacē, tumidissimā, liris magnis, distantibus ad latera subobliquè terminantibus rugatā, epidermide aurantio-flavidā indutā; latere antico rotundo, valdē inflato; latere postico magis producto, subattenuato, angustè truncato.*

THE PLOUGHED CYRENA. Shell ovate, very thin, pinky, very tumid, wrinkled with large, distant ridges, terminating rather obliquely at the sides, covered with an orange-yellow epidermis; anterior side rounded, much inflated; posterior side more produced, slightly attenuated, narrowly truncated.

BLanford. — ? MS. Hanley Coll.

Hab. Tenasserim.

Species 94. (Mus. Hanley.)

CYRENA PROLONGATA. *Cyr. testū ovato-subtrigonā, depresso, elongatā, compressā, tenuissimā liratis, epidermide tenui, straminā, indutā, intūs subcaruleo, albā; latere antico brevi, declivi, latere postico attenuato, subacuminato.*

THE LENGTHENED CYRENA. Shell ovate-subtrigonal, depressed, elongated, compressed, very finely ridged, covered with a thin straw-coloured epidermis, bluish white within; anterior side short, sloped; posterior side attenuated, subacuminated.

PRIME. — ? MS. Hanley's Collection.

Hab. Wide Bay, Australia.

Species 95. (Mus. Hanley.)

CYRENA MÜLLERIANA. *Cyr. testū subrotundā, altissimā, tumidā, intūs extusque dense purpureā, epidermide subviridi, nitenti indutā, liris valulis distantibus, nonnullis concurrentibus rugatā; umbonibus ferè centralibus, elevatis, margine dorsali utrinque declivi.*

CYRENA.—PLATE XVII.

MÜLLER'S CYRENA. Shell rather round, very high, tumid, deep purple within and without, covered with a greenish shining epidermis, wrinkled with strong, distant ridges, some of them running into each other; umboes nearly central, raised, dorsal margin sloped downwards on each side.

PRIME. —? MS. Hanley's Collection.

Hab. Fuh Chan, China.

Species 96. (Mus. Hanley.)

CYRENA LIMOSA. *Cyr. testâ allâ, ovato-subrotundâ, compressâ, tenuiter liratâ, ferè equilaterali, intus extînsque pupareâ, epidermide subviridi vel nigricanti indutâ; latere antico quam posticum breviori, margine dorsali convexo-declivi; latere postico subrotundo, margine dorsali paulò elevato; umbonibus versus latus anticum inclinatis, margine ventrali concavo.*

THE MUDDY CYRENA. Shell high, ovate-subrotund, compressed, finely ridged, almost equilateral, purple inside and out, covered with a greenish or blackish epidermis; anterior side shorter than posterior, with dorsal margin convexly sloped; posterior side rather rounded, dorsal margin a little raised; umboes leaning towards the anterior side, ventral margin convex.

MATON. Hanley, in Photographic Illustrations.

Hab. La Plata.

Species 97. (Mus. Brit.)

CYRENA MOUSSONIANA. *Cyr. testâ ovatâ, subcompressâ, tenuiuscûlât, medio liratâ, ad latera levigatâ, epidermide dense olivaceâ vel flavidâ indutâ, intus albâ; latere antico brevi, rotundo; latere postico producto; margine dorsali rectiusculo, paulò declivi, margine lateralâ latè truncato.*

MOUSSON'S CYRENA. Shell ovate, rather compressed, rather thin, ridged in the middle, smooth at the sides, covered with a dark olive or rather yellow epidermis, white within; anterior side short, round, posterior side produced; dorsal margin rather straight, a little sloped, lateral margin broadly truncated.

DESHAYES. —? MS. Brit. Mus.

Hab. —?

Species 98. (Mus. Brit.)

CYRENA FRAGILIS. *Cyr. testâ oblongâ, tenuissimâ, densè subviridi, liris distantibus subobliquis, postice evanidis, nonnullis concurrentibus rugatâ, intus albâ; latere antico brevi, infra umbones excavato; latere postico oblongo, margine dorsali leviter declivi, margine terminali latè, obliquè truncato.*

THE FRAGILE CYRENA. Shell oblong, very thin, deep greenish, wrinkled with distant, rather oblique ridges disappearing posteriorly, some running into each other, white within; anterior side short, hollowed beneath the umboes; posterior side oblong, dorsal margin slightly sloped, terminal margin broadly, obliquely truncated.

DESHAYES. —? MS. Brit. Mus.

Hab. —?

Species 99. (Mus. Brit.)

CYRENA SQUALIDA. *Cyr. testâ tenui, oblongâ, depressâ, compressâ, epidermide sordidâ olivaceâ, violaceo-nebulatâ indutâ, ad latera levigatâ, medio irregulariter rugatâ; latere antico brevi, rotundo, infra umbones excavato, latere postico producto; margine dorsali declivi, margine lateralâ obliquè truncato, infrâ subacuminato.*

THE SQUALID CYRENA. Shell thin, oblong, depressed, compressed, covered with a dirty olive epidermis clouded with violet, smooth at the sides, irregularly wrinkled in the middle; anterior side short, rounded, hollowed under the umboes; posterior side produced, dorsal margin sloped, lateral margin obliquely truncated, slightly acuminate below.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.

Hab. —?

Species 100. (Mus. Brit.)

CYRENA SALMACIDÆ. *Cyr. testâ donaciformi, tenui, lærigatâ, albida, purpureo-nebulatâ; latere antico alto, brevisimo, umbonibus acutis, margine dorsali valde declivi, latere postico producto, acuminato.*

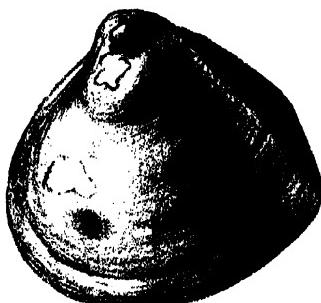
THE SALMACIDIAN (?) CYRENA. Shell donax-shaped, thin, smooth, whitish, clouded with purple; anterior side high, very short; umboes acute, dorsal margin much sloped, posterior side produced, acuminate.

MORELET —? MS. Brit. Mus.

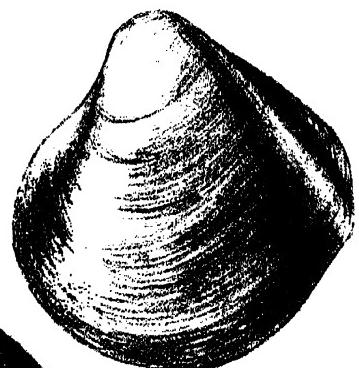
Hab. —?



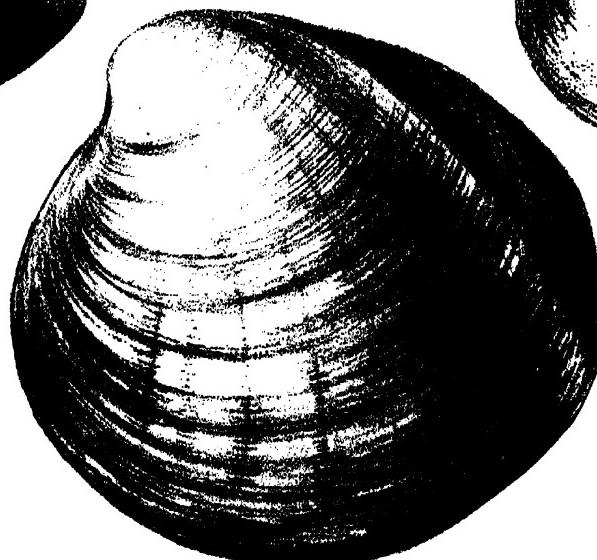
101.



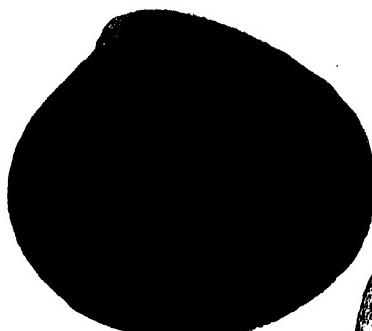
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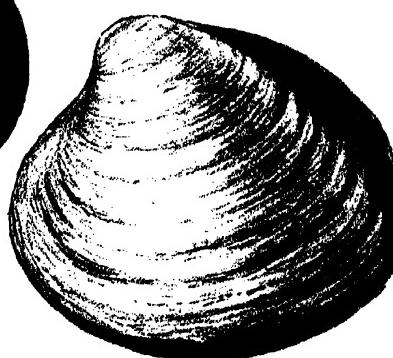
103.



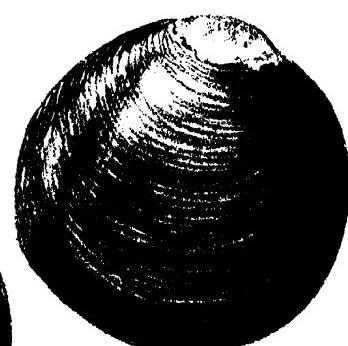
104.



105.



106.



107.

C Y R E N A.

PLATE XVIII.

Species 101. (Mus. Brit.)

CYRENA OVALIS. *Cyr. testā tenui, ovatā, subaequilaterali, regulariter, dense liratā, epidermide olivaceo-nigricanti, nitenti indutā, intus purpureā; latere antico breviusculū, rotundo; latere postico latè subtruncato; umbonibus elevatis, purpureo perpendiculariter fasciatis.*

THE OVAL CYRENA. Shell thin, ovate, subequilateral, regularly and very closely ridged, covered with an olive-blackish, shiny epidermis, purple within; anterior side the shorter, rounded; posterior side broadly subtruncated; umboes raised, perpendicularly banded with purple.

PRIME. Journal de Conchyliologie, Pl. 2, f. 6.

Hab. — ?

The ridges in this corbicula are more fine, close, and continuous than either of the two similarly shaped species.

Species 102. (Mus. Brit.)

CYRENA FLORIDANA. *Cyr. testā brevi, altā, crassā, tumidissimā, inaequilateraliter subtrigonā, levigatā, sublūs epidermidem rosā, intus carnea, epidermide flavido-fulvā, castaneo maculatā; latere postico declivi angulata, ad angulum ferè carinato, infī acuminato; umbonibus tumidis, elevatis; latere antico brevi, declivi.*

THE FLORIDA CYRENA. Shell short, high, thick, very tumid, inequilaterally trigonal, smooth, pinky under the epidermis, flesh-coloured within; epidermis yellowish fawn, spotted with chestnut; posterior side sloped, almost keeled at the angle, acuminate below; umboes tumid, raised; anterior side short, sloped.

CONRAD. Freshwater Shells of United States.

Hab. Florida.

Species 103. (Mus. Brit.)

CYRENA ISOCARDIOIDES. *Cyr. testā brevi, altissimā, tenui, tumidissimā, supernè subtrigonā, epidermide levigatā, tenui, cornē indutā, intus ad cardinem et subtus umbones purpureā; latere antico brevissimo, subtus umbones excavato, versus medium valde inflato; umbonibus subdistintibus, latere*

postico subrostrato, angulato, truncato, margine ventrali valde convexo.

THE ISOCARDIA-LIKE CYRENA. Shell short, very high, thin, very tumid, triangular at the upper part, covered with a smooth, thin, horny epidermis, purple inside at the hinge, and under the umboes; anterior side very short, excavated beneath the umboes; umboes a little distant, posterior side rather beaked, angular, truncated; ventral margin very convex.

DESHAYES — ? MS. Cum. Col.

Hab. — ?

Species 104. (Mus. Brit.)

CYRENA SOLIDA. *Cyr. testā crassā, magnū, breviter subrhomboideo, tumidissimā, epidermide tenuissimā indutā, anticē leviter rugatā; latere antico brevissimo, umbonibus ferè terminalibus; latere postico producto, obtusè angulato; margine laterodorsali elongato, arcuato; margine ventrali convexo, versus angulum posticum sursum acclivi.*

THE SOLID CYRENA. Shell thick, large, shortly subrhomboidal, very tumid, covered with a very thin epidermis, anteriorly lightly wrinkled; anterior side very short, umboes nearly terminal, posterior side produced, obtusely angular; dorsal margin lengthened, arched; ventral margin convex, sloped up towards the posterior angle.

DESHAYES — ? MS. Cum. Coll.

Hab. Australia.

Species 105. (Mus. Brit.)

CYRENA JUKESII. *Cyr. testā ovalā, compressā, levigatā, epidermide fusca, crenulatim striatā indutā; latere antico brevi; latere postico producto, margine dorsali arcuatum declivi.*

JUKES'S CYRENA. Shell ovate, compressed, smooth, covered with a brown epidermis with crenulated striae; anterior side short; posterior side produced, dorsal margin slightly arched, sloped downwards.

DESHAYES. Proc. Zool. Soc. 1854, p. 19.

Hab. Port Essington.

CYRENA.—PLATE XVIII.

Species 106. (Mus. Brit.)

CYRENA PLACIDA. *Cyr. testâ ovato-rotundatâ, compressâ, altâ, levigatâ, epidermide striatâ indutâ, ferè equilaterali, intus pallidâ roseâ, lateribus rotundis, umboibus depresso, obtusissimis.*

THE PLACID CYRENA. Shell ovately rounded, compressed, high, smooth, covered with a striated epidermis, almost equilateral, pale rose within, sides rounded; umboes depressed, very obtuse.

DESHAYES. Proc. Zool. Soc. 1854, p. 19.

Hab. —? Cum. Coll.

Species 107. (Mus. Brit.)

CYRENA NOTABILIS. *Cyr. testâ subrhomboidea, depresso, subcompressâ, tenuiter striatâ, epidermide tenuis-*

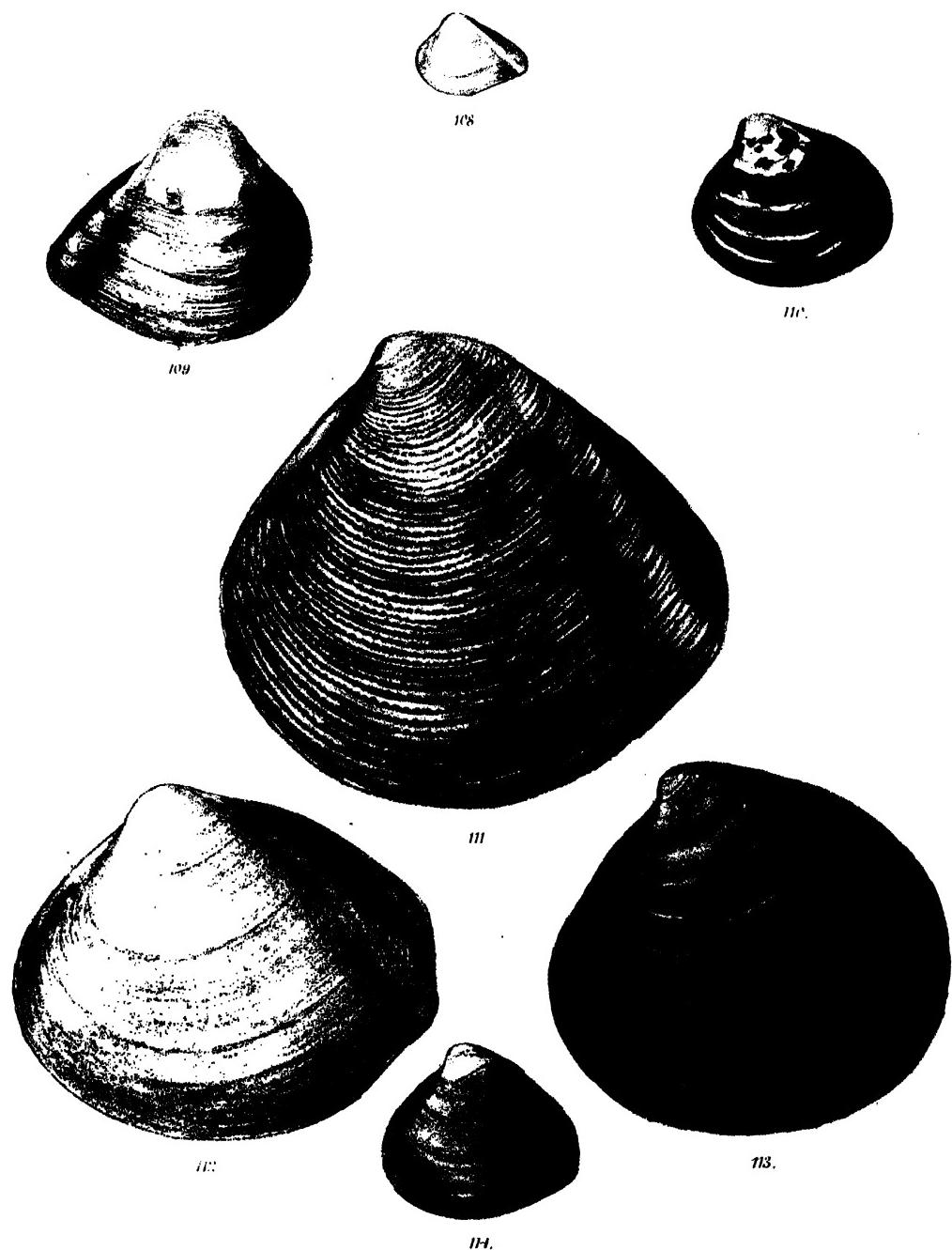
simâ indutâ; latere antico brevi, rotundo, infra umbones excavato; latere postico oblongo, angulo, post angulum extus intusque purpureo, margine dorsali paulò declivi, arcuato, margine terminali latè truncato.

THE REMARKABLE CYRENA. Shell subrhomboidal, depressed, rather compressed; finely striated, covered with a very thin epidermis; anterior side short, rounded, excavated under the umboes; posterior side oblong, angular, purple within and without behind the angle, dorsal margin a little sloped, arched, terminal margin broadly truncated.

DESHAYES. Proc. Zool. Soc. 1854, p. 21.

Hab. Payta, Peru.

Having much the form of a *Cypricardia*.



CYRENA.

PLATE XIX.

Species 108. (Mus. Sowerby.)

CYRENA DONACIFORMIS. *Cyr. testā parvā, tenuissimè liratā, trigonā, valdè inaequilaterali; margine dorsali utrinque valdè declivi, areā purpureā, utrāque valvā semilunatā; latere antico breviūsculo, declivi, subacuminato, latere postico attenuatum producto, ad terminum acuminato.*

THE DONAX-SHAPED CYRENA. Shell small, very finely ridged, trigonal, very inequilateral; dorsal margin much sloped on each side, with a semilunar area of purple on each valve; anterior side rather short, sloped, rather acuminate, posterior side taperingly produced, acuminate at the end.

SOWERBY.

Hab. Florida.

This species belongs to the *Corbicula* group in the character of the hinge.

Species 109. (Mus. Brit.)

CYRENA ANOMALA. *Cyr. testā tenuissimā, inflatā, altā, subtrigonā, epidermide tenui, pallidē subviridi indutā, intus ad cardinem et infra umbones purpureā; latere antico inflatā, rotundā, brevi; umbonibus inflatis, rotundis, margine ventrali valdè convexo; latere postico producto, acutē rostrato, attenuato.*

THE ANOMALOUS CYRENA. Shell very thin, inflated, high, subtrigonal, covered with a thin greenish epidermis, purple within on the hinge and under the umboes; anterior side inflated, rounded, short; umboes inflated, rounded, ventral margin very convex; posterior side produced, sharply beaked, attenuated.

DESHAYES. Proc. Zool. Soc. 1854, p. 51.

Hab. Bay of Caraccas.

Very full and globular in front, compressed and narrowed to a point at the back.

Species 110. (Mus. Sowerby, odd valves.)

CYRENA MEXICANA. *Cyr. testā ovatā, inflatā, tenui, epidermide obscurè fuscā indutā, intus pallidissimā*

carneā, ad latus posticum purpureā; latere antico brevissimo; medio inflato; latere postico producto, margine latero-dorsali declivi, margine terminali obtuso, obtusissimā angulato.

THE MEXICAN CYRENA. Shell ovate, inflated, thin, covered with a dull brown epidermis, very pale flesh-colour within, purple at the posterior side; anterior very short, middle inflated; posterior side produced, dorso-lateral margin sloped, terminal margin obtuse, very obtusely angular.

BRODERIP and SOWERBY. Zool. Journ. V. 5.

Hab. Mazatlan, Mexico.

Species 111. (Mus. Sowerby.)

CYRENA CEYLANICA. *Cyr. testā magnā, solidā, subtrigonā, subcompressā, altā, subaequilaterali, epidermide tenui, flavidā, fibrillatim striatā indutā; latere postico obtusè biangulato, ante angulum anticum subconcarā, post angulum posticum conplanatā, valdè declivi; latere antico breviūsculo, margine latero-dorsali complanato, declivi.*

THE CEYLON CYRENA. Shell large, solid, subtrigonal, subcompressed, high, subequilateral, covered with a thin, yellowish epidermis, with fringed striae; posterior side obtusely two-angled, rather concave in front of the anterior angle; flattened, much sloped behind the posterior angle; anterior side rather short, latero-dorsal margin flattened, sloped.

CHEMNITZ. (Venus) Marl. and Chemn.

Venus coarana. Gmel.

Cyrena Zeylanica. Lamarck.

Cyrena pallida. Deshayes.

Hab. Ceylon.

Species 112. (Mus. Brit.)

CYRENA COMPTA. *Cyr. testā ovato-oblongā, depresso-tumidā, crassā, levigatā, epidermide pallidē flavida nitenti indutā; latere antico brevi; latere postico producto, subattenuato, angulato, ante angulum subcompresso, margine dorsali declivi, margine terminali biangulato, truncato.*

THE SPRUCE CYRENA. Shell ovate-oblong, depressed,

CYRENA.—PLATE XIX.

tumid, thick, smooth, covered with a pale yellowish shining epidermis; anterior side short; posterior side produced, rather attenuated, angular, rather flattened in front of the angle; dorsal margin sloped, terminal margin biangular, truncated.

DESHAYES. Proc. Zool. 1854, p. 21.

Hab. —?

Species 113. (Mus. Sowerby.)

CYRENA BUSCHII. *Cyr. testâ veneriformi, ovato-subtriangulari, solidâ, subcompressâ, epidermide fuscoclavidiâ fimbriatim striatâ indutâ; latere antico brevi, prope marginem dorso-lateralem planulato; latere postico magis producto, margine dorso-laterali arcuato; umboibus elevatis, versus latus anticum inclinatis.*

VON BUSCH'S CYRENA. Shell venus-shaped, ovately subtriangular, solid, rather compressed, covered with a brownish-yellow epidermis; anterior side short, flattened near the dorso-lateral margin; posterior side more produced, dorso-lateral

margin arched; umboes raised, leaning towards the anterior margin.

PHILIPPI —? Adams' Genera.

Lauta. Deshayes.

Hab. —?

Species 114. (Mus. Brit.)

CYRENA EQUILATERALIS. *Cyr. testâ subtrigonâ, compressâ, altâ, subaequilaterali, fulvo-subaurantiâ, levigatâ; latere antico breviuscula, declivi, infra umbones excavato; latere postico paulò magis producto, infrâ acuminato, prope marginem dorso-lateralem angulato.*

THE EQUILATERAL CYRENA. Shell rather trigonal, compressed, high, nearly equilateral, fulvous orange, smooth; anterior side rather short, sloped, hollowed under the umboes; posterior side a little more produced, acuminate below, with an angle near the dorso-lateral margin.

DESHAYES. Proc. Zool. Soc. 1854, p. 20.

Hab. Cayenne.

CYRENA.

	Plate.	Specie		Plate.	Specie
equilateralis. <i>Deshayes</i>	XIX.	114	Floridana. <i>Courat</i>	XVIII.	102
Africana. <i>Krauss</i>	XIII.	59	fluminæ. <i>Lamarck</i>	XII.	56
ambigua. <i>Deshayes</i>	XV.	73	Fontainei. <i>D'Orbigny</i>	IX.	34
Angasi. <i>Prime</i>	XVII.	90	fortis. <i>Prime</i>	V.	16
angulata. <i>Deshayes</i> , not met with	XIX.	109	fragilis. <i>Deshayes</i>	XVII.	98
anomala. <i>Deshayes</i>	XVII.	93	fusca. (<i>Batissa</i>) <i>Prime</i>	IV.	21
arata. <i>Blanford</i>			galathæ. <i>Mörch</i> , not met with		
arcuata. <i>Deshayes</i> , not met with			gigantea. <i>Prime</i>	I.	1
Australis. <i>Deshayes</i> (<i>Batissa</i>) *	V.	13	gracilis. <i>Prime</i> (<i>Batissa</i>) *	VI.	20
Australis. <i>Deshayes</i> (<i>Corbicula</i>) *	XVI.	82	gracilis. <i>Prime</i> (<i>Corbicula</i>) *	XIV.	67
Beugdensis. <i>Deshayes</i> (<i>Corbicula</i>) *	XI.	50	grandis. <i>Deshayes</i>	XIV.	71
Bengalensis. <i>Lamarck</i> (<i>Cyrena</i>) *	VII.	23	Guaritziana. <i>Krauss</i>	XIII.	59
Bensonii. <i>Deshayes</i>	XI.	44	humerosa. <i>Deshayes</i>	VI.	18
Braziliana. <i>Deshayes</i>	XV.	79	incrassata. <i>Deshayes</i>	XVI.	86
Bullata. <i>Sowerby</i>	XIV.	68	inflata. <i>Prime</i>	IV.	10
Buschii. <i>Philippi</i>	XIX.	113	insignis. <i>Deshayes</i>	III.	7
Caledonica. <i>Gassies</i>	X.	40	insignis. <i>Deshayes</i>	XIV.	68
Carolinensis. <i>Bosc</i>	VIII.	31	Iravadica	XI.	45
Cashmierensis. <i>Deshayes</i>	XIII.	69	isocardiodes. <i>Deshayes</i>	XVIII.	103
Ceylanica. <i>Chemnitz</i>	XIX.	111	Japonica. <i>Prime</i>	XVII.	91
Childreni. <i>Gray</i>	VI.	17	Jayensis. <i>Lea</i>	VI.	19
coaxana. <i>Gmel</i>	XIX.	111	Jukesii. <i>Deshayes</i>	XVIII.	105
compressa. <i>Mousson</i>	XII.	58	Keraudreni. <i>Lesson</i>	II.	6
compta. <i>Deshayes</i>	XIX.	112	Largillierti. <i>Philippi</i>	XIII.	61
concinna. <i>Sowerby</i>	XIV.	66	lanta. <i>Deshayes</i>	XIX.	113
consobrina. <i>Caillaud</i>	XII.	51	lenticularis. <i>Deshayes</i>	I.	2
cor. <i>Lamarck</i>	XII.	51	limosa. <i>Matou</i>	XVII.	96
corbuloides. <i>Deshayes</i>	VI.	21	Lydigiana. <i>Prime</i>	XVI.	83
cordiformis. <i>Deshayes</i>	VIII.	27	mactroides. <i>Desh.</i> , not met with		
erassula. <i>Mousson</i>	XV.	72	Mallaceensis. <i>Deshayes</i>	XVI.	88
Cumingii. <i>Deshayes</i>	XII.	53	Manillensis. <i>Philippi</i>	XV.	74
Cyprinoides. <i>Guoy</i>	VII.	24	maritima. C. B. Adams	VIII.	30
Cyrena. <i>Prime</i>	XVII.	95	maxima. <i>Deshayes</i>	XV.	78
cyreniformis. <i>Prime</i>	XIV.	69	Mexicana. <i>Broderip</i> and <i>Sowerby</i>	XIX.	110
decipliens. <i>Deshayes</i> , not met with			minor. <i>Prime</i>	III.	8
depressa. <i>Lamarck</i> , not met with			Moussoniana. <i>Deshayes</i>	XVII.	97
divaricata. <i>Deshayes</i>	VIII.	28	Mulleriana. <i>Prime</i>	XVII.	95
donaciformis. <i>Sowerby</i>	XIX.	108	nitens. <i>Deshayes</i>	XVI.	89
erosa. <i>Deshayes</i>	XI.	46	Nepeanensis. <i>Lesson</i>	XV.	75
Essingtonensis. <i>Deshayes</i>	IX.	36	nitidula. <i>Deshayes</i>	X.	38
eximia. <i>Dkr.</i> , not met with			notabilis. <i>Deshayes</i>	XVIII.	107
fallax. <i>Deshayes</i>	X.	41	obesa. <i>Hinds</i>	II.	5

* Owing to the separation of Cyrenæ into separate genera, authors have repeated specific names. The above instances were not observed till too late for avoidance or explanation in the plates.

CYRENA,

	Plate.	Species.		Plate.	Species.
oblonga. <i>Deshayes</i>	IX.	37	salmacidæ. <i>Morelet</i>	XVII.	100
obscura. <i>Prime</i>	IX.	33	semisulcata. <i>Deshayes</i>	XVI.	84
obsoleta. <i>Deshayes</i>	XVI.	85	similis. <i>Gray</i>	XIII.	64
occidens. <i>Benson</i>	XI. XIII.	48	sinuosa. <i>Deshayes</i>	VII.	26
olivacea. <i>Carpenter</i>	IX.	32	solida. <i>Deshayes</i>	XVIII.	104
orientalis. <i>Lamarek</i>	XII.	54	squalida. <i>Deshayes</i>	XVII.	99
ovalina. <i>Deshayes</i>	XV.	77	striatella. <i>Deshayes</i>	XI.	49
ovalis. <i>Prime</i>	XVIII.	101	sublobata. <i>Deshayes</i>	X.	39
pallida. <i>Deshayes</i>	XIX.	111	suborbicularis. <i>Phil.</i> , not met with		
Papua. <i>Lesson</i>	VII.	22	sulcatina. <i>Deshayes</i>	XIV.	70
Panamaensis. <i>Prime</i>	VIII.	29	sumatrensis. <i>Sowerby</i>	XIII.	62
Panormitana. <i>Bicon</i> , not met with			tenebrosa. <i>Hinds</i>	V.	14
Paracensis. <i>D'Orbigny</i>	XV.	81	temnistiata. <i>Prime</i>	XV.	80
Paranensis. <i>D'Orb.</i> , not met with			trigona. <i>Deshayes</i>	XI.	43
Pernuviana. <i>Deshayes</i> , not met with			Iravadica. <i>Blanford</i>	XI.	45
Petitiiana. <i>Bourg</i> , not met with			triangularis. <i>Metcalfe</i>	VII.	25
placida. <i>Deshayes</i>	XVIII.	106	trigonella. <i>Jamek.</i> , not met with		
Prinettata. <i>Mörch</i>	XIII.	63	triquetra. <i>Deshayes</i>	II.	3
producta. <i>Deshayes</i>	IV.	12	turnida. <i>Deshayes</i>	XVII.	92
prolongata. <i>Prime</i>	XVII.	94	turgida. <i>Lea</i> , not met with		
pusilla. <i>Philippi</i>	XII.	57	unioniformis. <i>Prime</i>	III.	
radiata. <i>Hanley</i>	XI. XIII.	47	Vanikorensis. <i>Quoy</i> , not met with		
Ramondi. Bourg, not met with			variegata. <i>Deshayes</i>	XVI.	87
recticata. Valenciennes, not met with			veneriformis. <i>Sowerby</i>	IV.	11
regularis. <i>Prime</i> ...	XV.	76	ventricosa. <i>Deshayes</i>	IX.	35
rhomboidea. <i>Prime</i>	XII.	52	violacea. <i>Lamarek</i>	V.	15
rivalis. Von Büsch	XIV.	65	Woodiana. <i>Lea</i>	XIII.	63
rotundata. <i>Lea</i>	II.	4	Yokohamensis	XII.	55
Saigonensis — ?	XIII.	62	Zeylanica. <i>Lamarek</i>	XIX.	111

MONOGRAPH
OF THE GENUS
SPHERIUM.

While Thee, by Whom were all things made, we praise
For ever, and tell out in sweetest lays
An endless Alleluia." -- *Nedde*



2.



3.



4.



5.



6.



7.



8.



9.



10.

Vincent

S P H A E R I U M.

PLATE I.

Genus SPILÆRIUM. Scopoli.

MOLLUSCUM ACEPHOLOPODUM, BIMUSCULOSUM, FLUVIATILE,
SIPHONIBUS SEPARATIS. *Testa tenuis, intus tenuiter
testacea, extus cornea, equivalvis, ferè aequilateralis,
plerumque inflata. Cardo utriusque raleū dentibus
duobus cardinalibus divergentibus, lateralibus
elongatis, compressis, duplicatis et simplicibus.
Pallii impressionibus integris.*

MOLLUSC ACEPHOLOPODUS, BI-MUSCULAR, FLUVIATILE,
WITH SEPARATED SIPHONS. Shell thin, thinly
shelly within, horny without, equivalve, nearly
equilateral, generally inflated. Hinge in each
valve with two cardinal diverging teeth, lateral
teeth, two and one in each valve, elongated, com-
pressed. Palpal impression entire.

Synonym. *Cyclas*. Brnguière.

The chief difference between this genus and *Pisidium* is to be found in the siphons of the animal, which are divided in the former, and separated in the latter. The shells, however, are in general to be distinguished by those of the present genus being less oblique, and more equilateral. Wherever there are rivers and lakes, are also to be found shells of the *Sphaerium* genus, excepting, perhaps, in the torrid regions. They abound in Europe and North America. The British Museum, largely reinforced by the Cumingian Collection, presents a large array of species which are given in this monograph, besides others which are accessible to me; still, however, leaving some which cannot be got together for identification.

Species 1. (Mus. Brit.)

SPILÆRIUM STEINBUCHII. *Sph. testa parvâ, politâ, sub-
obliquâ, semipellucidâ, pallidâ; latere postico
obliquè producto, margine dorsali declivi; latere
antico breviusculo; umbonibus prominentibus,
versus laterem anticum inclinatis.*

STEINBUCH'S SPILÆRIUM. Shell small, polished, rather
oblique, semipellucid, pale; posterior side ob-
liquely produced, dorsal margin sloped; anterior

side rather short; umboes prominent, leaning
towards the anterior side.

MÖLLER. Adams. Geneva.

Hab. Greenland.

Species 2. (Mus. Brit.)

SPILÆRIUM TRANSVERSUM. *Sph. testa transversè ovata,
pallidè cornuta, tenui, opacâ, umbonibus ocatis,
subcentralibus, margine dorsali rectiunculo; latere
antico breviusculo, marginibus lateralibus sub-
truncatis, margine centrali convexo.*

THE TRANSVERSE SPILÆRIUM. Shell transversely ovate,
pale horn, thin, opaque, umboes ovate, subcentral,
dorsal margin rather straight; anterior side
rather shorter, posterior lateral margin, a little
obliquely truncated, ventral margin convex.

SAY. Proc. Acad. Nat. Sci. Phil. 1862.

Hab. United States.

Species 3. (Mus. Brit.)

SPILÆRIUM RIVALIS. *Sph. testa rectiunculâ, subaequi-
laterali, inflatâ, transversâ, cornuta, fuscoc-subviridi,
fasciatâ; umbonibus ocatis, magnis; margine
ventrali recto, lateralibus subtruncatis.*

THE RIVER SPILÆRIUM. Shell rather straight, nearly
equilateral, inflated, transverse, horny, banded
with greenish brown; umboes oval, large;
ventral margin straight, sides rather truncated.

Drap. Moll. Pl. X.

Hab. Europe.

Generally regarded as a variety of *Sphaerium cornuum*,
but more transverse and rhomboidal.

Species 4. (Mus. Sowerby.)

SPILÆRIUM RIVICOLUM. *Sph. testa magna, ovalis,
tenuiter sulcata, intensè fuscoc-viridi, intus medio
carneola, versus marginem carulea; umbonibus
subcentralibus, obtusis, margine dorsali utrinque
declivi.*

THE RIVER-DWELLING SPILÆRIUM. Shell large, oval,

SPHÆRIUM.—PLATE I.

finely grooved, deep greenish-brown, within fleshy in the middle, blue towards the margin; umboes rather central, obtuse, dorsal margin sloped at both sides.

LAMARCK. Anim. s. Vert.

Cyclus corneum. Dilwyn.

Hab. Great Britain. Europe generally.

Species 5. (*f, a, b*, Pl. V. Mus. Brit.)

SPHÆRIUM LACUSTRE. *Sph. testā ovatā, inflatā, pallidā, laevi, latere antico breviori, latere postico vix obliquè truncato, margine dorsali subdeclivi.*

THE PALE SPHÆRIUM. Shell ovate, inflated, pale, smooth, anterior side shorter; posterior side; scarcely obliquely truncated, dorsal margin a little sloped.

DRAPARNAUD. Hist. Moll. p. 130, Pl. X. f. 6, 7.

Cyclus ovale. Ferrussac.

Cyclus pallidum. Gray.

Hab. Regent's Park, London. France.

Species 6. (Mus. Sowerby.)

SPHÆRIUM LENTICULARIS. *Sph. testā subcompressā, politā, breviter ovali, corneo-grisecenti, altd.; umbonibus subcentralibus, margine dorsali utrinque declivē, margine postico obtusissimè truncato.*

THE LENTICULAR SPHÆRIUM. Shell rather compressed, polished, shortly oval, greyish horn, high; umboes rather central, dorsal margin sloped on each side; posterior margin very obtusely truncated.

SOWERBY.

Hab. —? We have no locality for this rather peculiar shell.

Species 7. (Mus. Brit.)

SPHÆRIUM SULCatum. *Sph. testā magnā, inflatā, sub-rhomboideā, validē sulcatā, fusco-subviridi, transversā; umbonibus subcentralibus, prominentibus; margine dorsali utrinque paulo declivē, marginibus lateralibus obliquè subtruncatis, margine ventrali rectiūsculo.*

THE GROOVED SPHÆRIUM. Shell large, inflated, rhomboidal, strongly sulcated, greenish brown, transverse; umboes nearly central, prominent; dorsal margin a little sloped on each side;

lateral margins a little truncated obliquely; ventral margin rather straight.

LAMARCK. Anim. s. Vert.

Hab. Massachusetts.

Species 8. (Mus. Hanley.)

SPHÆRIUM INDICUM. *Sph. testā subrotundā, pallidā, laevi, altiusculd; umbonibus subcentralibus, prominentibus, rotundis, margine ventrali concavō, margine dorsali posticō rectiūsculo.*

THE INDIAN SPHÆRIUM. Shell rather rounded, pale, smooth, rather high; umboes rather central, prominent, rounded, ventral margin convex, dorsal margin rather straight posteriorly.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.

Hab. Loodianah, India.

Species 9. (Mus. Brit.)

SPHÆRIUM SCALDIANUM. *Sph. testā oblongo-subquadratū, pallidē aurantiā, tumidā, hærigalā, subiniquilateralē, latere antico breviori; umbonibus prominentibus; margine dorsali postico rectiūsculo, margine ventrali rectiūsculo.*

SCALDI'S SPHÆRIUM. Shell oblong-subquadrate, pale orange, tumid, smooth, rather inequilateral, anterior side shorter; umboes prominent, postero-dorsal margin rather straight, ventral margin rather straight.

NORMAND. Notæ Cycl. Nord. p. 3, 1854.

Hab. Europe.

Species 10. (Mus. Brit.)

SPHÆRIUM CALYCULATUM. *Sph. testā subquadratū, complanatū, compressū, inaequilateralē; latere antico breviori, obliquè subtruncato, margine dorsali recto, brevi; latere postico expanso; obliquè quadrato, margine dorsali recto, paulò elevato; umbonibus acutis, tuberculo calyciformi desinenti.*

THE CAPPED SPHÆRIUM. Shell rather square, flattened, compressed, inequilateral; anterior side shorter, obliquely subtruncated, dorsal margin straight, short; posterior side expanded, obliquely square, dorsal margin straight, a little raised; umboes sharp, ending in a little cup-shaped tubercle.

DRAPARNAUD. Moll. Pl. X. f. 14, 15.

Hab. Europe.

Quite distinct from *Cyclus lacustris* of the same author.



12.



15.



16.



19.



Vincent

SPHÆRIUM.

PLATE II.

Species 11. (Mus. Brit.)

SPHERIUM NUCLEUS. *Sph. testâ tumidâ, altâ, pallidâ, cornicâ, fasciis griseis ornatâ, subrhomboidâ; sub-aquilaterali; umbonibus magnis, obtusis, margine dorsali utrinque rectiunculo, margine ventrali rectiunculo, marginibus lateralibus subtruncatis.*

THE NUT-LIKE SPHERIUM. Shell tumid, high, pale, horny, ornamented with grey bands, subrhomboidal, nearly equilateral; umboes large, obtuse; dorsal margin rather straight on each side, ventral margin rather straight, lateral margins a little truncated.

STÜDER. Jay's Catalogue.

Hab. Moravia.

Species 12. (Mus. Brit.)

SPHERIUM PISIDIÖIDE. *Cyr. testâ viridi, subdistanter sulcatâ, obliquâ, tumidâ, latiori quam altâ; latere postico obliquè producto, margine dorsali declivi; latere antico breviori, margine dorsali declivi; umbonibus elevatis, tumidis, rotundis.*

THE PISIDIUM-SHAPED SPHERIUM. Shell green, rather distantly grooved, oblique, tumid, longer than high; posterior side obliquely produced, dorsal margin sloped downwards, anterior side shorter, dorsal margin sloped, umboes elevated, tumid, rounded.

GRAY. MS. Brit. Mus.

Hab. Europe.

Species 13. (Mus. Brit.)

SPHERIUM STRIATINUM. *Sph. testâ subrhomboidâ, sub-distanter sulcatâ, obliquâ; latere antico brevi, liris validis; latere postico obliquè producto, ad marginem ventram obtuso angulato, liris subcavatis; margine dorsali declivi, margine postico-laterali obliquè truncato.*

THE LITTLE STRIATED SPHERIUM. Shell rather rhomboidal, rather distantly sulcated, oblique; anterior side short, ridges strong; posterior side obliquely produced, obtusely angular at the ventral

margin, ridges almost disappearing; dorsal margin sloped, postero-lateral margin obliquely truncated.

LAMARCK. Anim. s. Vert. Cyclas, Sp. 10.

Hab. South America.

Species 14. (Mus. Brit.)

SPHERIUM TUMIDUM. *Sph. testâ subrotundâ, tumidâ, validâ et distanter lirata, fuscocornicâ, altâ, intus subantrantia; latere antico rotundo, latere postico subobliquè producto, prope marginem ventralem subacuminato.*

THE TUMID SPHERIUM. Shell rather round, tumid, strongly and distantly ridged, horny-brown, high, rather orange within; anterior side round, posterior side rather obliquely produced, acuminate near the posterior margin.

BAIRD. Proc. Zool. Soc. 1863, p. 69.

Hab. Vancouver's Island.

Species 15. (Fig. a, b, Pl. IV.)

SPHERIUM PARTUMEIUM. *Sph. testâ pallidâ, flavidâ, vel griseo-cornicâ, subrotundâ, tumidâ, altâ, levigata; latere antico brevi, rotundo; latere postico subproducto, subquadrate.*

THE PRODUCTIVE SPHERIUM. Shell pale yellowish, horny-grey, rather rounded, tumid, high, smooth; anterior side short, round; posterior side a little produced, rather square.

SAY. Gould. Invertebrata, p. 75. f. 55.

Hab. Ohio.

Species 16. (Mus. Brit.)

SPHERIUM RUGOSUM. *Sph. testâ solidâ, subrhomboidâ, subcircular-fuscâ, medio sulcatâ, ad latera levigata; latere antico brevi, ad marginem dorsalem subcavato, latere truncato; latere postico producto, obliquè truncato.*

THE RUGOSE SPHERIUM. Shell rather solid, subrhomboidal, greenish-brown, sulcated in the

SPHÆRIUM.—PLATE II.

middle, smooth at the sides; anterior side short, a little cornered at the dorsal margin, truncated at the side; posterior side produced, obliquely truncated.

WHITMORE. MS. Mus. Brit.

Hub. —?

Species 17. (Fig. *a, b, c*, and *d*, Pl. V. Mus. Brit.)

SPHÆRIUM CORNEUM. *Sph. testâ breviter ovatâ, tumidâ, subrotundâ, fuscâ vel flavidâ, griseo-fasciatâ, vel albida; umboibus obtusis, margine dorsali utrinque declivi; marginibus laterilibus obtusissimè truncatis.*

THE HORNY SPHÆRIUM. Shell shortly ovate, tumid, rather round, brown or yellow, or banded with grey or whitish; umboes obtuse, dorsal margin sloped on both sides; lateral margins very obtusely truncated.

LINNÆUS (*Tellina cornuta*.) Syst. Nat.

Cydas rivalis. Draparnaud.

Hub. Great Britain, Europe generally.

Species 18. (Mus. Brit.)

SPHÆRIUM TERVERIANUM. *Sph. testâ subglobosâ, altâ, ad apicem cornet, forâ omniâ custaneâ; latere antico ante umboes excavato; umboibus prominentibus, latere postico inflato, margine dorsali declivi.*

TERVER'S SPHÆRIUM. Shell rather globose, high, horny at the apex, chestnut nearly all over, anterior side excavated in front of the umboes; umboes prominent, posterior side inflated, dorsal margin sloped.

DUPUY. Extr. Gall. Test. 87, 1849.

Hub. France.

Species 19. (Mus. Brit.)

SPHÆRIUM CONSOPRINUM. *Sph. testâ compressâ, subquadratâ, levigatâ, cornet; latere antico brevi, depresso; latere postico subexpanso; margine dorsali elevato, marginibus laterilibus ventralique rectiusculis; umboibus parvis, acutis.*

THE RELATED SPHÆRIUM. Shell compressed, subquadrate, smooth, horny; anterior side short, depressed; posterior side rather expanded; dorsal margin raised, lateral and ventral margins rather straight; umboes small, sharp.

CAILLAUD. Voyage de la Méroé.

Hub. Pyrmont.

A smaller species than *Sph. calyculatum*, resembling it, but without the calyx-shaped tubercle.

Species 20. (Mus. Brit.)

SPHÆRIUM OCCIDENTALE. *Sph. testâ subcompressâ, ovato-subquadratâ, corneo-flavescenti, levigatâ; lateribus subtruncatis, margine dorsali antico declivi, postico paulò elevato.*

THE WESTERN SPHÆRIUM. Shell rather compressed, ovato-subquadrate, yellowish, horny, smooth; sides a little truncated, anterior dorsal margin sloped downwards, posterior a little raised.

PRIME. MS. Mus. Brit.

Hub. Montreal.



26.



29.



30.

SPHÉRIUM.

PLATE III.

Species 21. (Mus. Brit.)

SPHERIUM MACULATUM. *Sph. testā pareō, altā, compressā, subquadratā, tenui, cornē, maculis nigris variegatā; latere antico brevi, ante umbones paulo excavato; latere postico magis expanso, subquadrato, margine dorsali rectiūsculo, margine latecali latè truncato.*

THE SPOTTED SPHERIUM. Shell small, high, compressed, rather square, thin, horny, variegated with blackish spots; anterior side short, a little excavated in front of the umboes; posterior side more expanded, rather square, dorsal margin rather straight, lateral margin broadly truncated.

MORELET. Test. Nov. p. 25, 1851.

Hab. Yucatan, Mexico.

Species 22. (Mus. Brit.)

SPHERIUM MADAGASCARIENSE. *Sph. testā orato-subrhomboidea, ferruginea, corneo-subviridi, fasciatā, tumidā, concentricè minutissimè striatā, margine dorsali rectiūsculo, marginibus lateralibus subtruncatis; umbonibus obtusis.*

THE MADAGASCAR SPHERIUM. Shell ovate, sub-rhombooidal, ferruginous or banded with greenish horn, tumid, concentrically very minutely striated, dorsal margin rather straight, lateral margins rather truncated; umboes obtuse.

TRISTAN (?) MS. Mus. Brit.

Hab. Madagascar.

Species 23. (Mus. Brit.)

SPHERIUM STRAMINEUM. *Sph. testā subrhomboidea, solidā, epidermide fulvo-flavida indutā; medio versis apicem distanter liratā, ad latera et versus marginem ventralem levigatā; umbonibus rotundis prominentibus.*

THE STRAW-COLOURED SPHERIUM. Shell subrhomboidal, solid, covered with a fulvous yellowish epidermis; middle, towards the apex, distantly ridged, smooth at the sides and towards the ventral margin; umboes rounded, prominent.

CONRAD. Silliman's Journal, Vol. XXV., p. 342.
Hab. Missouri.

Species 24. (Mus. Brit.)

SPHERIUM ELEGANS. *Sph. testā tenui, altā, compressā, subquadratā, levigatā, pallidè cornē, lineis nigrescentibus et fasciis albis ornatā; umbonibus subcentralibus, margine dorsali utrinque paulo declivi.*

THE ELEGANT SPHERIUM. Shell thin, high, compressed, rather flat, smooth, pale horn, ornamented with dark lines and white bands; umboes nearly central, dorsal margin a little sloped on each side.

ADAMS. Boston Journal of Science, 4, Pl. IV. f. 2.

Hab. Vermont.

Species 25. (Mus. Brit.)

SPHERIUM EBURNEUM. *Sph. testā altā, solidā, elevata, levigatā, rotundisubquadratā; latere antico angustiori, breviori, rotundo; latere postico expanso, lato, subquadrato, margine dorsali recto, ad terminum eminato.*

THE IVORY SPHERIUM. Shell high, solid, ivory-white, smooth, roundly subquadrate; anterior side narrower, shorter, rounded; posterior side expanded, broad, rather square, dorsal margin straight, cornered at the end.

ANTHONY (?) MS. Brit. Mus.

Hab. United States.

Species 26. (Mus. Brit.)

SPHERIUM FABALE. *Sph. testā compressā, leviter subcavatā, castanēdā, epidermide ferruginea indutā, subovatā, depressā, valde inaequilateralis; latere antico brevi, declivi, subacuminato; latere postico producto, lato, marginē dorsali elevato, subarcuato, marginē ventrali reclinato.*

THE BEAN SPHERIUM. Shell compressed, slightly grooved, chestnut, covered with a ferruginous epidermis, rather oval, depressed, very inaequilateral; anterior side short, sloped, rather acuminate; posterior side produced, broad, dorsal margin raised, slightly arched; ventral margin rather straight.

PRIME. Pro. Soc. Nat. Hist. Brit. IV. 1851, p. 159.

SPHÆRIUM.—PLATE III.

Sphærium castaneum. Prime.

Sphærium sulcata. Charpentier.

Hab. United States.

side short, rather round; posterior side expanded, obliquely truncated.

LINSLEY. Amer. Journ. Sci. N. Ser. VI. p. 234.

Hab. United States.

Species 27. (Mus. Brit.)

SPHÆRIUM SIMILE. *Sph. testā subovatā vel subrhomboidē, cornēā, subaequilaterali, liris validis, versus apicem fortioribus rugatā; latere antico declivi, infrā subacuminato, latere postico obliquè et obtusissimè truncato.*

THE SIMILAR SPHÆRIUM. Shell subovate or subrhomboidal, horny, nearly equilateral, wrinkled with strong ridges, stronger towards the apex; anterior side sloped, rather acuminate below; posterior side obliquely and very obtusely truncated.

SAY. Nichol's Encycl. Am. Ed. 11.

Hab. North America.

Cyclas Surragota. Lamarck.

It is not so rhomboidal as *Sphærium sulcatum*, and the sulci are larger at and towards the apex.

Species 28. (Mus. Brit.)

SPHÆRIUM TRUNCATUM. *Sph. testā parvā, pallidē cornēā, griseescendi, compressā, subobliquā; latere antico brevi, subrotundo; latere postico expanso, obliquè truncato.*

THE TRUNCATED SPHÆRIUM. Shell small, pale horn, greyish, compressed, rather oblique; anterior

side short, rather round; posterior side expanded, obliquely truncated.

Species 29. (Mus. Brit.)

SPHÆRIUM INCURVUM. *Sph. testā parvā, oblongā, compressā, subferrugineā; latere antico brevissimo, depresso; latere postico producto, truncato; umboibus acuminatis, incurvis.*

THE INCURVED SPHÆRIUM. Shell small, oblong, compressed, rather ferruginous; anterior side very short, depressed; posterior side produced, truncated; umboes acuminate, turned inwards.

GUPPY. Proc. Sci. Asso. Trinidad. 1872.

Hab. Isl. Trinidad.

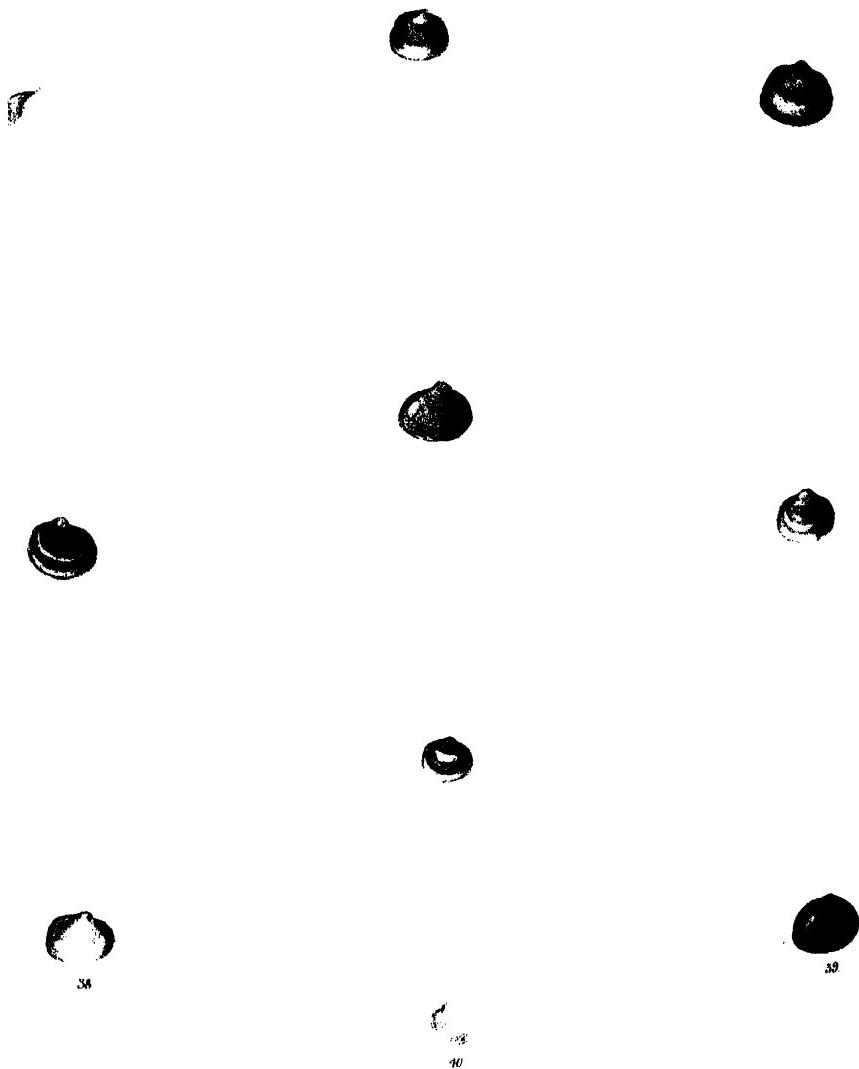
Species 30. (Mus. Brit.)

SPHÆRIUM ELEVATUM. *Sph. testā rotundi, alti, pallidissimè aurantio-cornēā; latere antico brevi, rotundo; latere postico subexpanso, ad marginem dorsalem cuneato; umboibus rotundis, prominentibus.*

THE RAISED SPHÆRIUM. Shell rounded, high, very pale, orange-tinted, horny; anterior side short, round; posterior side a little expanded, cornered at the dorsal margin; umboes round, prominent.

HALDEMAN. Proc. Ac. Nat. Hist. Phil. I. p. 53.

Hab. America.



S P H Ä R I U M.

PLATE IV.

Species 31. (Mus. Sowerby.)

SPHÄRIUM CAROLINENSIS. *Sph. testâ subcompressâ, altâ, rotundo-subquadratâ, fusco-corneâ; latere antico subrotundo, angusto; latere postico obliquè obtusissimè truncato; margine ventrali paulò convexo; umboibus parvis, haud prominentibus.*

THE CAROLINA SPHÄRIUM. Shell rather compressed, high, subquadrate, brown-horny; anterior side rather round, narrow; posterior side obliquely very obtusely truncated; ventral margin a little convex; umboes small, not prominent.

DESHAYES. Lamarck. N. ed. Anim. sans Vert.

Hab. Carolina, United States.

Species 32. (Mus. Brit.)

SPHÄRIUM RHOMBOIDEUM. *Sph. testâ subovatâ, pallidâ, lavi, altiâsculâ; latere antico breviâsculo, margine dorsali depresso, latere postico subexpanso, subtruncato; margine ventrali rectiâsculo; umboibus prominentibus, acuminatis.*

THE RHOMBOIDAL SPHÄRIUM. Shell subovate, pale, smooth, rather high; anterior side rather short, dorsal margin depressed, posterior side a little expanded, slightly truncated; ventral margin rather straight; umboes prominent, acuminated.

SAY. Journ. Acad. Nat. Sci. 2. p. 380.

Hab. Vermont.

Species 33. (Mus. Sowb.)

SPHÄRIUM SECURIS. *Sph. testâ, subquadratâ, griseo-corneâ, tumidâ, levigatâ, umboibus productis, calyculatis; latere antico brevi, rectiâsculo; latere postico cuneato, latè truncato, margine ventrali paulò convexo.*

THE HATCHET SPHÄRIUM. Shell subquadrate, grey-horny, tumid, smooth; umboes produced, calyculated; anterior side short, rather straight; posterior side cornered, broadly truncated, ventral margin a little convex.

PRIME. Proc. Zool. Soc. Nat. Hist. Bost. iv. p. 160. 1851.

Hab. United States.

Species 34. (Mus. Brit.)

SPHÄRIUM DISTORTUM. *Sph. testâ solidâ, obliquâ, antice sulcatâ, postice levigatâ, corneo-subviridi, latere antico brevi, rotundo, ampio; latere postico obliquè producto, angusto, post umbones excavato, margine terminali obliquè truncato.*

THE DISTORTED SPHÄRIUM. Shell solid, oblique, anteriorly grooved, posteriorly smooth, greenish horny, anterior side short, round, full; posterior side obliquely produced, narrow, excavated behind the umboes, terminal margin obliquely truncated.

C. B. ADAMS.

Hab. America.

Species 35. (Mus. Brit.)

SPHÄRIUM CREPLINI. *Sph. testâ subglobosâ, subrotundâ, lineis nigrescentibus et fasciis albidis concentricâ cinctâ; latere postico brevi, ad marginem dorsalem cuneato; latere antico obliquè producto, rotundo, ante umboes excavato.*

CREPLIN'S SPHÄRIUM. Shell rather globose, rather rounded, concentrically belted with dark lines and whitish bands; posterior side short, cornered at the dorsal margin; anterior side obliquely produced, round, excavated in front of the umboes.

DUNKER. Zeit. für Malak. 20, 1845.

Hab. Europe.

This little rounded shell has a peculiar bend forward in the anterior side, with a hollow under the umboes.

Species 36. (Mus. Brit.)

SPHÄRIUM SOLIDUM. *Sph. testâ subquadratâ, solidâ, tumidâ, cornet, griseo-fasciatâ, regulariter sulcata; umboibus productis, subcentralibus, margine dorsali utrinque paulò declivi; lateribus obtusissimè subtruncatis, margine ventrali rectiâsculo.*

THE SOLID SPHÄRIUM. Shell subquadrate, solid, tumid,

SPHÆRIUM.—PLATE IV.

horny, banded with grey, regularly grooved; umboes produced, nearly central, dorsal margin slightly sloped on both sides; sides very obtusely truncated, ventral margin rather straight.

NORMAND. Nat. Cycl. Valenc. 6, f. 34.
Hab. France.

Species 37. (Mus. Brit.)

SPHERIUM NOVE-ZELANDE. *Sph. testā parvā, semi-pellucidā, compressā, cornuā, griseo-fasciatā, luci, subquadratā, anticē rotundā, posticē obtusè truncatā, umboibus subcentralibus.*

THE NEW ZEALAND SPHERIUM. Shell small, semi-pellucid, compressed, horny, banded with grey, smooth, rather square, anteriorly rounded, posteriorly obtusely truncated; umboes nearly central.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.
Hab. New Zealand and New Holland.

Species 38. (Mus. Brit.)

SPHERIUM SUBTRANSVERSUM. *Sph. testā hyalinā, compressā, pallidē stramineā, versus apicem cornutā; latere antico subacuminato; latere postico lato, subexpanso; margine dorsali recto, margine laterali obliquè truncato.*

THE SUBTRANSVERSE SPHERIUM. Shell hyaline, compressed, pale straw, fleshy towards the apex; anterior side rather acuminate; posterior side broad, slightly expanded; dorsal margin straight, lateral margin obliquely truncated.

PRIME. Proc. Zool. Soc. 1860, 322.
Hab. Mexico.

Species 39. (Mus. Brit.)

SPHERIUM SOLIDULUM. *Sph. testā ovato-subtrigonā, solidā, rugatā, rugis versus apicem magis distantibus; latere antico breviūsculo, declivi; latere postico obliquè truncato, prope marginem ventralēm producto, subacuminato, margine dorsali declivi.*

THE SOLID SMALL SPHERIUM. Shell ovate-subtrigonal, solid, wrinkled, wrinkles more distant towards the apex; anterior side rather short, sloped, posterior side obliquely truncated, produced near the ventral margin, slightly acuminate, dorsal margin sloped.

PRIME. Proc. Soc. Nat. Hist. Bost. iv. 158, 1852.
Hab. North America.

Species 40. (Mus. Brit.)

SPHERIUM PUNCTIFERUM. *Sph. testā parvā, compressā, obliquè subrotundā, semipellucidā, pallidissimā, umboibus anticē inclinatis, acutis; margine dorsali utrinque recto; margine postico-ventrali subproducto.*

THE PUNCTURED SPHERIUM. Shell small, compressed, a little obliquely rounded, semipellucid, very pale, umboes leaning anteriorly, sharp, dorsal margin straight on each side; postero-ventral margin slightly produced.

GUPPY —? MS. Mus. Brit.
Hab. Trinidad.



13



15



16



17



S P H E R I U M.

PLATE V.

Plate V. (Mus. Brit.)

Fig. 17 d. *Sphaerium corneum*, var. *flavescens*, Macgillivray v, Pl. II.

Fig. 5 b. *Sphaerium laeustre*. See Plate I.

Species 41. (Mus. Brit.)

SPHERIUM INCONSPICUUM. *Sph. testū securiformi, flavidō-carnosā, supernē succinatā, levigatā, obliquā, inaequilaterali; latere antico brevi, obliquè truncato; latere postico subexpanso, margine postico ventrali obliquè producto, margine dorsali elevato; margine ventrali rectiñculo, lato; umbonibus productis, subacuminatis.*

THE INCONSPICUOUS SPHERIUM. Shell hatchet-shaped, yellowish-flesh, amber above, smooth, oblique, inequilateral; anterior side short, obliquely truncated; posterior side a little expanded; postero-ventral margin obliquely produced, dorsal margin raised; ventral margin rather straight, broad; umbones produced, a little acuminate.

PRIME. Proc. Zool. Soc. Bost.

Hab. Asia Minor.

Species 42. (Mus. Brit.)

SPHERIUM BORNEENSE. *Sph. testū oblongā, ferruginea, tenuiter striatā, fusco-obscuro angulatim maculata; latere antico subrotundo; latere postico obliquo, subquadrato, margine ventrali rectiñculo; margine dorsali utrinque paulo declivi.*

THE BORNEAN SPHERIUM. Shell oblong, ferruginous, finely striated, angularly spotted with dull brown; anterior side rather round; posterior side oblique, rather square, ventral margin rather straight, dorsal margin on each side a little sloped.

SOWERBY.

Hab. Borneo.

Species 43. (Mus. Sowerby.)

SPHERIUM ELONGATUM. *Sph. testū magnā, oblongā, tumida, subovatā, subviridi, versus apicem griseo-*

cornēd; umbonibus obtusis, depresso, subcentralibus; latere antico brevissimo; latere postico paulo magis obliquè producto, margine laterali obliquè subtruncato; margine ventrali rectiñculo, elongato; margine dorsali utrinque recto, brevi.

THE ELONGATED SPHERIUM. Shell large, oblong, tumid, subovate, greenish, horny grey towards the apex; umbones obtuse, depressed, nearly central; anterior side rather short; posterior side a little more obliquely produced, lateral margin obliquely slightly truncated; ventral margin rather straight, elongated; dorsal margin on each side straight, short.

SOWERBY.

Hab. —?

We have no information respecting the locality of this rather handsome species, of which the three fine specimens in our possession are the only ones we have seen.

Species 44. (f. a, b, Mus. Brit.)

SPHERIUM MORMONICUM. *Sph. testū solidi, subquadratā, frē levigatā, alta, subaequilaterali, cornēd, fusco-fasciatā et lineatā; intus corrātā, fasciatā; lateribus obtusissimè truncatis; umbonibus rotundis obtusis; margine dorsali utrinque brevi, rie declivi.*

THE MORMON'S SPHERIUM. Shell solid, rather square, nearly smooth, high, subequilateral, horny, banded and lined with brown; bluish within, banded; sides very obtusely truncated; umbones rounded, obtuse, dorsal margin short on each side, scarcely sloped.

SOWERBY.

Hab. Great Salt Lake.

Broader and more solid than the European rivularis.

Species 45. (Fig. a, b, Mus. Brit.)

SPHERIUM CAPENSE. *Sph. testū subquadratum, evata, tumida, ferruginea, intus subcinosā, fasciatā; umbonibus rotundis; latere antico brevi, depresso,*

SPHÆRIUM.—PLATE V.

rotundo; latere postico obscurè angulato, obtusisimè subquadrato.

THE VINOUS SPHÆRIUM. Shell subquadrately ovate, tumid, ferruginous, a little wine-coloured, banded; umboes rounded; anterior side short, depressed, rounded; posterior side obtusely angular, very obtusely quadrate.

SOWERBY.

Hab. S. Africa.

Sphaerium Capense of Krauss is a more shortly ovate and more compressed lenticular shell than this.

Species 46. (Mus. Brit.)

SPHÆRIUM TRANSLUCIDUM. *Sph. testâ parvâ, translucidâ, subcompresso, oblongâ, antice subacuminatâ, posticè expansâ, latè subtruncatâ, margine ventrali convexo, late, margine dorsali breviuscule, recto; umbonibus acutis.*

THE TRANSLUCID SPHÆRIUM. Shell small, translucent, rather compressed, oblong, anteriorly slightly acuminate, posteriorly expanded, broadly sub-

truncated, ventral margin convex, broad; dorsal margin rather short, straight; umboes sharp.

SOWERBY.

Hab. Palm-tree Creek, Australia.

Species 47. (Mus. — ? Copied.)

SPHÆRIUM FERRUGINEUM. *Sph. testâ parvâ, tenui, fuscâ, obliquâ, lœvi, valde inaequilaterali; latere antico brevissimo, angusto, subacuminato, margine ventrali acclivo; latere postico expando, oblongo, margine dorsali convexiusculo; margine posticolum obliquè substrancato.*

THE FERRUGINOUS SPHÆRIUM. Shell small, thin, brown, oblique, smooth, very inequilateral; anterior side very short, narrow, subacuminate, ventral margin sloped upwards; posterior side expanded, oblong, dorsal margin rather convex, postero-lateral margin obliquely subtruncated.

KRAUSS. Sudafrikanischen Mollusken.

Hab. River Kynsa, S. Africa.

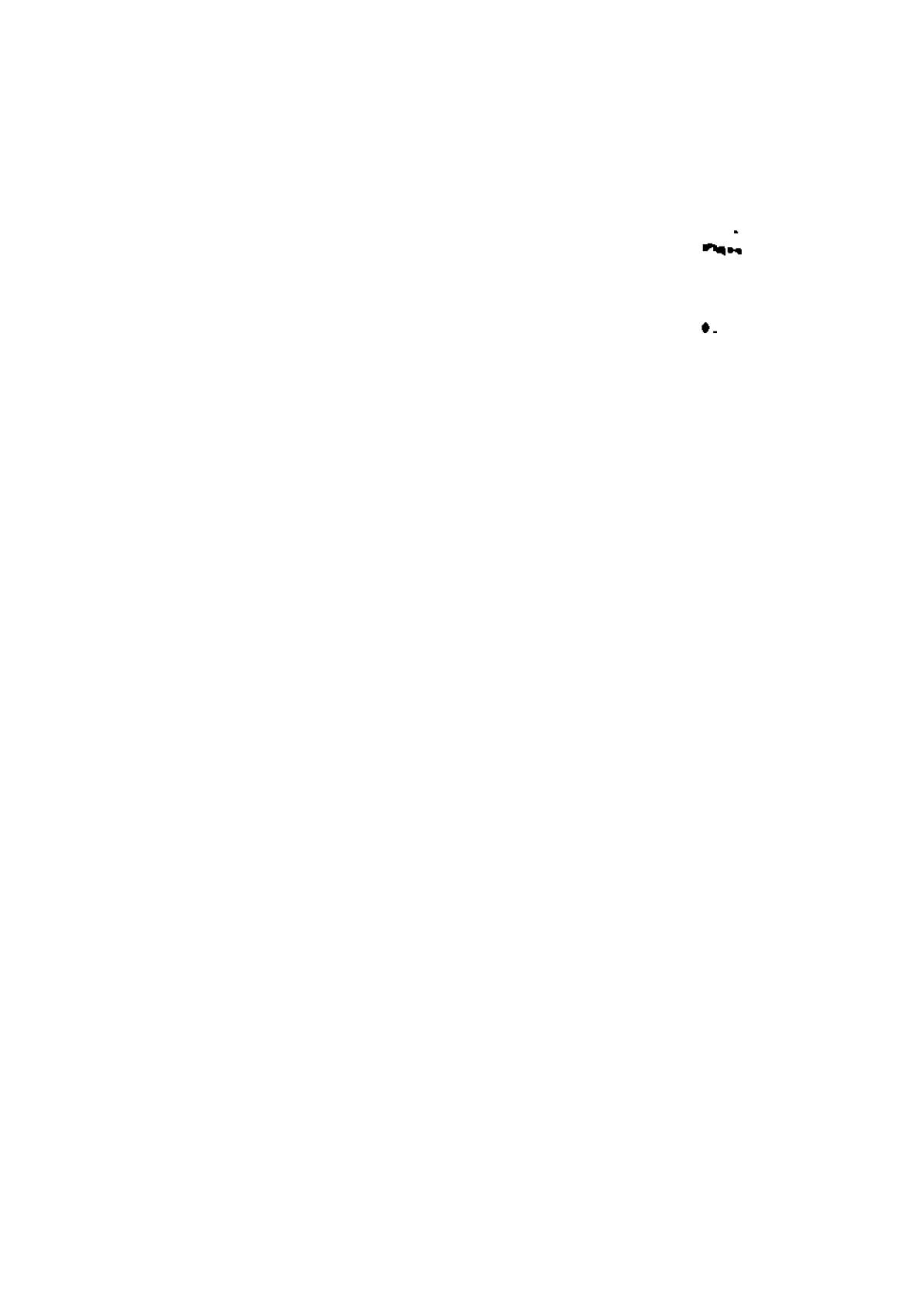
Resembling *Sph. incurvum*.

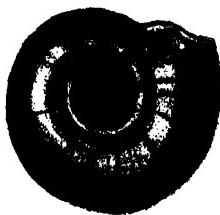
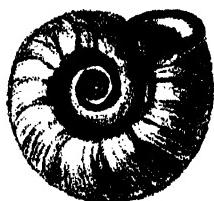
SPHÆRIUM.

	Plate.	Species.		Plate.	Species.
Borneense. <i>Sowerby</i>	V.	42	<i>oreale</i> . <i>Ferrussac</i>	I.	5
calyculatum. <i>Draparnaud</i>	I.	10	<i>pallidum</i> . <i>Gray</i>	I.	5
Capense. <i>Krauss</i>	V.	45	<i>partumicum</i> . <i>Gould</i>	II.	15
Carolinensis. <i>Deshayes</i>	IV.	31	<i>Pisidioides</i> . <i>Gray</i>	II.	12
cristatum. <i>Prime</i>	III.	26	<i>panctiferum</i> . <i>Guppy</i>	IV.	40
consobrinum. <i>Cailliaud</i>	II.	19	<i>rhomboideum</i> . <i>Say</i>	IV.	32
corneum. <i>Linnaeus</i>	II. V.	17	<i>rivalis</i> . <i>Drap</i>	I.	3
creplini. <i>Dunker</i>	IV.	35	<i>rivicolum</i> . <i>Lamarck</i>	I.	4
distortum. <i>C. B. Adams</i>	IV.	34	<i>rugosum</i> . <i>Whitmore</i>	II.	16
eburneum. <i>Anthony</i>	III.	25	<i>scaldianum</i> . <i>Normand</i>	I.	9
elegans. <i>Adams</i>	III.	24	<i>securis</i> . <i>Prime</i>	IV.	33
elevatum. <i>Haldeman</i>	III.	30	<i>simile</i> . <i>Say</i>	III.	27
elongatum. <i>Sowerby</i>	V.	43	<i>solidum</i> . <i>Normand</i>	IV.	36
fabale. <i>Prime</i>	III.	26	<i>solidulum</i> . <i>Prime</i>	IV.	39
ferrugineum. <i>Krauss</i>	V.	47	<i>Steinbuchii</i> . <i>Möller</i>	I.	1
inconspicuum. <i>Prime</i>	V.	41	<i>stramineum</i> . <i>Conrad</i>	III.	23
incurvum. <i>Guppy</i>	III.	29	<i>striatimum</i> . <i>Lamarck</i>	II.	13
indicum. <i>Deshayes</i>	I.	8	<i>subtransversum</i> . <i>Prime</i>	IV.	38
lacustre. <i>Draparnaud</i>	I. V.	5	<i>sulcatum</i> . <i>Lamarck</i>	I.	7
lenticularis. <i>Sowerby</i>	I.	6	<i>suclulosum</i> . <i>Charpentier</i>	III.	26
maculatum. <i>Morelet</i>	III.	21	<i>Tercerarium</i> . <i>Dupuy</i>	II.	18
Madagascariense. <i>Tristan?</i>	III.	22	<i>translucidum</i> . <i>Sowerby</i>	V.	46
Mormonicum. <i>Sowerby</i>	V.	44	<i>transversum</i> . <i>Say</i>	I.	2
Novaëzelandiae. <i>Deshayes</i>	IV.	37	<i>truncatum</i> . <i>Tinsley</i>	III.	28
nucleus. <i>Stüder</i>	II.	11	<i>tumidum</i> . <i>Baird</i>	II.	14
occidentale. <i>Prime</i>	II.	20			

MONOGRAPH
OF THE GENUS
PLANORBIS.

Lord, Thy glory fills the heavens,
Earth is with its fulness stor'd ;
Unto Thee be glory given,
Holy, holy, holy, Lord ! *Bishop Mant.*





PLANORBIS.

PLATE I.

Genus PLANORBIS. Guettard.

Molluscum aquaticum.

Testa interdum sinistralis, spiralis, discoidea, spirâ depressâ, anfractibus tribus vel septenis; apertura semilunari, vel ovatâ vel trigonâ, margine plerumque tenui.

MOLLUSC, FRESHWATER. Shell spiral, sometimes sinistral, spire depressed, whorls three to seven; aperture semilunar, or ovate or trigonal, margin generally thin.

Synonyms. *Coretus*, Adams. *Orbis*, Schreot.

Inclusis. Planorbula, Hald. *Segmentina*.

The late Mr. G. B. Sowerby, in his *Genera of Shells*, expresses his conviction that the Planorbis are sinistral shells, because when the shell is so placed that the aperture is on the left side, the whole of the whorls of what seems to be the spire are visible, while what is then the lower disc is hollow, and the apical whorls are more or less engulfed. This, however, is not the case throughout the genus, but chiefly among the typical forms. The Messrs. Adams describe the genus as consisting of dextral shells. My impression is that some are sinistral and others dextral. My attention had not been drawn to the subject before several plates had been drawn, and some of the figures being placed as if dextral will seem to have an upside-down appearance. The genus is widely diffused throughout all parts of the globe. Wherever there are ditches, ponds, wells, and rivers, there the Planorbis appear.

Species 1. (Fig. a, b, Mus. Sowerby.)

PLANORBIS CORNEUS. *Pla. testâ tumidâ, latâ, sinistrâ, cornea, lavigatâ, medio anfractuum castaneâ; spirâ concavâsculâ, anfractibus senis, convecciusculis, rapide crescentibus, prope suturam rotundis; tum declivibus, infrâ ventricosâ; disco inferiori concavâ, anfractibus rotundis, apicalibus obtectis, aperturâ latâ, altâ, subquadratâ.*

THE HORNY PLANORBIS. Shell tumid, broad, sinistral, horny, smooth, chestnut in the middle of the whorls; spire rather concave; whorls six, rather convex, rapidly increased, rounded near the suture, then sloped, ventricose below; lower

disc concave, whorls rounded, apical hidden; aperture broad, high, subquadrate.

LINNÆUS. *Systema Naturae.*

Hab. Great Britain.

The specimen represented by figure *b* belongs to a recently discovered albino variety.

Species 2. (Mus. Brit.)

PLANORBIS TRIVOLVIS. *Pla. testâ tumidâ, altâ, pallidâ fuscâ, obliquâ rugatâ, sinistrali; spirâ excavatâ, angustâ, supra suturam elevatâ, angulatâ; anfractibus quaternis superiori, tribus inferiore apparientibus; aperturâ subtrigonâ, altâ, intus castaneâ marginatâ.*

THE THREE-WHORLED PLANORBIS. Shell tumid, high, pale brown, obliquely wrinkled, sinistral; spire hollowed, narrow, raised above the suture, angular; whorls, four appearing above, three below; aperture subtrigonal, high, bordered inside with chestnut.

SAY. *American Conchology*, 1860.

Hab. New York.

Species 3. (Mus. Sowerby.)

PLANORBIS PERUVIANUS. *Pla. testâ albidâ, semipellucidâ, altiusculâ, sinistrali, spirâ angustâ, anfractibus quaternis, angustis, supra suturam elevatis; ultimo magno, subdecliici; versus aperturam calidè expanso; suturâ profundâ; aperturâ subtrigonâ, supra infraque anfractum ultimum productâ, disco inferiori excavato, anfractibus rotundis, apicali obtecto.*

THE PERUVIAN PLANORBIS. Shell whitish, semipellucid, rather high, sinistral, spire narrow, whorls four, narrow, raised above the suture; last large, somewhat sloped, much expanded towards the aperture; suture deep; aperture subtrigonal, produced above and below the last whorl; lower disc hollow, whorls rounded, the apical one hidden.

BRODERIP. *Proc. Zool. Soc.* 1842, f. 125.

Hab. Peru.

PLANORBIS.—PLATE I.

Species 4. (And Fig. b, Pl. X., Mus. Sowerby.)

PLANORBIS CORPULENTUS. *Pla. testū tenui, inflatā, subglobosā, subviridē cornēa, concentricē obliquē rugatā, altā, supernē angulatā, infrā subangulatā, sinistrali; spirā infundibulatā, anfractibus supra suturam elevatis, angularis, lateraliter planulatis; medio altis, convexis; ultimo versus aperturam expansis; aperturā maximū, supra infraque ultimum anfractum productis, supernē subangustatā, infernē latā, margine expanso, intūs castaneo; disco superiori profundē umbilicato.*

THE CORPULENT PLANORBIS. Shell thin, inflated, sub-globose, greenish horny, concentrically obliquely wrinkled, high, angular above, a little angular below, sinistral; spire funnelled, whorls raised above the suture, angular, laterally flattened, high, convex in the middle; last expanded towards the aperture; aperture very large, produced above and below the last whorl, rather narrow above, broad below, margin expanded, chestnut within; upper disc deeply umbilicated.

SAY. Albers. Mon. Pl. III. f. 79.

Hab. Winnipeck River.

It is difficult to distinguish the less developed forms of this species from the more elevated forms of *Planorbis lentus*. The latter is a stouter shell, with the wrinkles more defined, and it is never quite so high. *Planorbis trivolvis* is considerably more depressed than either.

Species 5. (Mus. Sowerby, &c.)

PLANORBIS COMPLANATUS. *Pla. testū dextrali corneo-fulgida, levigatā, compressā, supernē convexiūculā, infernē planulatā; spirā medio subexcavatā; anfractibus quinīs, moderatē crescentibus, ultimo infrā carinatis; aperturā obliquē subovatā, supra anfractum ultimum elevatā et productā.*

THE FLATTENED PLANORBIS. Shell horny fulvous, smooth, compressed, rather convex above, flattened below; spire a little hollowed in the middle; whorls five, increasing moderately, last

keeled below; aperture obliquely subovate, raised and produced above the last whorl.

LINNAEUS. Systema Nature.

Planorbis marginatus. Draparnand.

Planorbis umbilicatus. Müller.

Hab. France, England, Sicily.

Species 6. (Fig. a, b, Mus. Brit.)

PLANORBIS OLIVACEUS. *Pla. testū sinistrā, depresso, olivaceo-fuscā, nitenti, latā, supernē declivi, infra latissimā, spirā concavā, angustatā, anfractibus senis, compressis, supra suturam paulò elevatis, tum lente declivibus; aperturā subtrigonā, margine inferiori obliquē productā; disco inferiori concavo.*

THE OLIVE PLANORBIS. Shell sinistral, depressed, olive-brown, shining, broad, sloped above, very broad beneath; spire concave, narrow; whorls six, compressed, a little raised above the suture, then gently sloped; aperture subtrigonal, lower margin obliquely produced; lower disc concave.

SIX. Testacea Brasiliana, p. 26, Pl. XVIII. f. 1, 2.

Planorbis Cummingianus. Dunker. Proc. Zool. 1848.

Hab. Brazil.

Species 7. (Mus. Brit.)

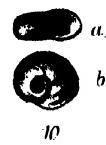
PLANORBIS BICARINATUS. *Pla. testū sinistrali, tenui, levigatā, altissimā, pallidē stramineā; spirā angustā, propinquodè infundibulatā, anfractibus tribus, supernē infernēque carinatis; ultimo anfractu maximo, ad aperturam altissimo, supernē acuminato, infrā latiñculo; disco inferiori profundē umbilicato, anfractu apicali obtecto.*

THE TWO-KEELED PLANORBIS. Shell sinistral, thin, smooth, very high, pale straw; spire narrow, deeply funnelled, whorls three, keeled above and below; last whorl very large, very high at the aperture, acuminate above, rather wide below; lower disc deeply umbilicated, apical whorl hidden.

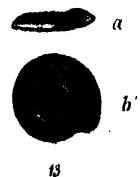
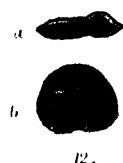
SAY. Journ. Nat. Sci. Phil.

Hab. River Ohio.

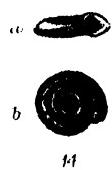




11a



11b



15.



16.

PLANORBIS.

PLATE II.

Species 8. (Mus. Sowb.)

PLANORBIS NAUTILEUS. *Pla. testâ albidi, pareâ, sub-depressâ, anfractibus quatuor, rapidâ crescentibus, liris cornicis, ad marginem spinosis annulatis, ultimo disjuncto, disco superiori planulato, anfractibus rotundo-depressis; disco inferiori latâ usque ad apicem umbilicato.*

THE NAUTILOID PLANORBIS. Shell whitish, small, rather depressed, whorls four, quickly enlarging, ridges horny, annulated with horny ridges spinous at the margin, last disjoined, upper disc flattened with round-depressed whorls; lower disc broadly umbilicated as far as the apex.

LINNÆUS. *Systema Naturae.*

Planorbis imbricatus. Müller.

Planorbis cristatus. Draparnaud.

Hab. France, Great Britain.

Species 9. (Fig. a, b, Mus. Sowb.)

PLANORBIS CONTORTUS. *Pla. testâ fulvâ, mediocriter depressâ, supernè planulatâ, infrâ angulatum umbilicatâ; anfractibus senis, levâ crescentibus, angustis, supernè rotundatis, infrâ ad marginem umbilici angulatis, umbilico angusto, profundo; aperturâ semilunari.*

THE EVEN-WHORLED PLANORBIS. Shell fulvous, moderately depressed, flattened above, angularly umbilicated below; whorls six, slowly increased, narrow, rounded above, angular at the edge of the umbilicus, umbilicus narrow, deep; aperture semi-lunar.

MÜLLER. *Drap. Mol. Pl. I. f. 39-41.*

Planorbis crassus — ?

Planorbis umbilicatus — ?

Hab. England, France.

Species 10. (Fig. a, b, Mus. Sowb.)

PLANORBIS COTTERI. *Pla. testâ subaurantiâ, nitenti, altiusculi, anfractibus tribus, rapidâ crescentibus, ultimo lato, supernè subplanulatis, disco superiori quam inferior angustiori, disco inferiori plano, tuberculato; aperturâ obliquâ, labio externo convexâ obliquo.*

THE SMOOTH PLANORBIS. Shell somewhat orange, shining, rather elevated; whorls three, quickly increasing; the last wide, rather flattened at the top, upper disc a little narrower than lower; lower disc flat, tuberculated; aperture oblique, outer lip convexly oblique.

JEFFREYS — ? *British Mollusea, &c.*

Planorbis levius. Alder.

Hab. Penzance, Falmouth, Swansea, Belfast, &c.

Species 11. (Fig. a, b, Mus. Brit.)

PLANORBIS CAMPANULATUS. *Pla. testâ altâ, levissimâ obliquâ liratâ; anfractibus senis, rapidâ crescentibus, externo magno; disco superiori profundâ excavato, anfractibus internis evolutis, exteris rotundis, ultimo versus aperturam contracto, tunc expanso; disco inferiori anfractibus prope suturam angulatis; aperturâ subpyriformi, expansâ, superè elevatâ, intùs contractâ.*

THE BELL PLANORBIS. Shell high, finely obliquely ridged; whorls six, rapidly increased, outer one large; upper disc deeply hollow, inner whorls hidden, outer rounded, last contracted towards the aperture, then expanded; lower disc with whorls angular near the suture; aperture rather pyriform, expanded, raised above, contracted within.

SAY. *Journ. Am. Soc. Phil. Vol. II. p. 166.*

Hab. Newport, Iowa, U.S.

Species 12. (Mus Sowerby.)

PLANORBIS CARINATUS. *Pla. testâ depressâ; anfractibus quaternis, extùs pavlo infra medium acutè carinatis; ultimo lato; disco superiori excavato, anfractibus convexis; disco inferiori magis convexo, anfractibus subplanulatis.*

THE KEELED PLANORBIS. Shell depressed; whorls four, sharply keeled on the outer side a little below the middle; last broad; upper disc hollow, whorls convex; lower disc more convex, with rather flattened whorls.

MÜLLER. *Drap. Mol. Pl. 2, f. 13, 14.*

Helix planorbis. Linneus.

Planorbis planatus — ?

PLANORBIS.—PLATE II.

Planorbis lutescens. Lamarck.

Hab. Britain and other parts of Europe.

MÜLLER. *Verm., Test. et Fluv.* p. 161. No. 347.

Hab. Britain, France.

* Resembling *Planorbis marginatus*, but with outer whorls wider, and the keel planed more towards the middle of the whorls.

Species 13. (Fig. a, b, Mus. Brit.)

PLANORBIS VORTEX. *Pla. testâ depressâ, utrinque com-planatâ; anfractibus octavis, angustissimis, lenlè crescentibus; disco superiori subexcavato, inferiori planâ convexo, anfractibus angustiâ prope suturam elevatis.*

THE VORTEX PLANORBIS. Shell depressed, flattened on both sides; whorls eight, very narrow, slowly increasing; upper disc a little hollow, lower a little convex, with whorls narrowly raised near the suture.

LINNAEUS. (*Helix*) *Systema Naturæ.*

Planorbis compressus. Michelet.

Hab. Europe generally.

Species 15. (Fig. a, b, Mus. Sowerby.)

PLANORBIS NITIDUS. *Pla. testâ compressâ, succinatâ, medio obtusè angulatâ, suprâ infrâque ferrè aquâtiliter convexâ; ultimo anfractu maximo; disco spirali contracto, planato, anfractibus internis angustis; disco inferiori latè excavato.*

THE NEAT PLANORBIS. Shell flattened, amber, obtusely angular in the middle, almost equally convex above and below; last whorl very large; spiral disc contracted, flattened, with narrow inner whorls; lower disc broadly excavated.

MÜLLER. *Drap. Moll.* Pl. 2, f. 20—22.

Hab. Britain, France.

Species 16. (Fig. a, b, Mus. Sowerby.)

PLANORBIS LACUSTRIS. *Pla. testâ compressâ, succinatâ, internè divisâ, lineis rubris distantibus, obliquè concentricis cætis notatâ; supernè subconicâ; spiri minimâ; medio subacutè angulato, infra angulum planulato, umbilicato.*

THE LAKE PLANORBIS. Shell compressed, amber, internally divided, externally marked by distant obliquely concentric red lines; somewhat conical above; spire very small; middle rather sharply angular, flattened below the angle, umbilicated.

LIGHTFOOT. —? *Brit. Moll.*

Segmentina lineata. —?

Hab. Ponds and ditches in England.

Species 14. (Fig. a, b, Mus. Sowerby.)

PLANORBIS SPIROBIS. *Pla. testâ compressâ; anfractibus senis, lentè crescentibus, supernè angustioribus; disco superiori angustiori, planulato; disco inferiori concavo; aperturi supra anfractum ultimum elevatâ; infrâ productâ, rotundâ.*

THE SPIROBIS PLANORBIS. Shell compressed; whorls six, slowly increasing, narrower above; upper disc narrower, flattened; lower disc concave; aperture raised above the last whorl, produced, rounded below.



18



20



23.

PLANORBIS.

PLATE III.

Species 17. (Mus. Sowerby).

PLANORBIS ALBUS. *Pla. testā pallidissimā, depresso, spiraliter liris tenuibus hirsutis ornatā; anfractibus paucis, ultimo maximo; aperturā obliquā productā; disco superiori lenticulari, disco inferiori concavo.*

THE WHITE PLANORBIS. Shell very pale, depressed, spirally ornamented with thin hairy ridges; whorls few, last very large; aperture obliquely produced; upper disc lenticular; lower disc concave.

MÜLLER. Drap. Moll. Pl. I. fig. 45-48.

Planorbis hispidus. Draparnaud.

Hab. Britain, France.

Species 18. (Mus. Sowb.)

PLANORBIS ARMIGERUS. *Pla. testā subdepressā, solidissimā, pallidē cornēd; anfractibus quinīs, subcompressis, ultimo supernē subcontracto, supra anfractus spirales elevato, versus aperturam depresso; disco inferiori profundē umbilicato; aperturā declivi, intūs prope marginem incrassata, ovato.*

THE ARMOURE-BEARING PLANORBIS. Shell rather depressed, solid, pale horny; whorls five, rather compressed, last rather contracted above, raised above the spiral whorls, depressed towards the aperture; lower disc deeply umbilicated; aperture sloped, thickened within near the margin, ovate.

SAY. Haldeman's Monograph, Pl. IV. f. 11-15.

Hab. New York.

Species 19. (Fig. a, b, Mus. Sowerby.)

PLANORBIS SUCCINEUS. *Pla. testā depressā, succinēa, politā; anfractibus quaternis, sublētē crescentibus, apicalibus angustis, externo tumido; disco inferiōri latē concavo, subcomplanato; aperturā depresso, obliquā ovatā, angustā.*

THE AMBER PLANORBIS. Shell depressed, amber, polished, whorls four, rather slowly increasing, apical ones narrow, last tumid; lower disc widely

concave, rather flattened; aperture depressed, obliquely ovate, narrow.

SOWERBY.

Hab. —?

Two specimens are all I have seen of this pretty little amber-coloured species.

Species 20. (Fig. a, b, c, Mus. Brit.)

PLANORBIS REDFIELDI. *Pla. testā pallidē fulci, altā; anfractibus paucis, suprā infriāque carinatis; disco superiori profundē excavato, ultimo anfractu convexo; disco inferiori profundiā umbilicato; aperturā altissimā, supernē expansā, auriformi, suprā infriāque angulatā.*

THE EARED PLANORBIS. Shell pale fulvous, high; whorls few, keeled above and below; upper disc deeply excavated, last whorl convex; lower disc very deeply umbilicated; aperture very high, expanded above, auriform, angular above and below.

C. B. ADAMS. Conch. Contrib. p. 23.

Hab. Jamaica.

Species 21. (Fig. a, b, Mus. Sowerby.)

PLANORBIS COARCTATUS. *Pla. testā altā, pallidē stramineā; anfractibus quinīs, compressis, suprā infriāque rotundē angulatis, medio concavis; disco superiori profundē excavato, disco inferiori complanato, anfractibus gradatim crescentibus, ultimo anfractu versus aperturam angustato, aperturā angustā, subovatā, margine paulo expenso, intūs coarctato.*

THE CONTRACTED PLANORBIS. Shell high, pale straw; whorls five, compressed, roundly angular above; convex in the middle; upper disc deeply excavated; lower disc flattened, whorls gradually increasing, last whorl narrow towards the aperture; aperture narrow, rather oval, margin a little expanded, narrow within.

SOWERBY.

Hab. —?

PLANORBIS.—PLATE III.

Species 22. (Fig. *a, b*, Mus. Sowerby.)

PLANORBIS ORBICULATUS. *Pla. testū depressā, albā, semipellucidī; anfractibus quinīs, supernē convexo-planatalis, lati-scalis, infrā angustatalis; apertura obliquè elevatā, margine inferiori sursūm acclivi.*

THE ORBICULAR PLANORBIS. Shell depressed, white, semipellucid; whorls five, convexly flattened above, rather broad, narrow below; aperture obliquely raised, lower margin sloped upwards.

MORELET — ♀ Adams.

Hab. — ?

Species 23. (Fig. *a, b*, Mus. Sowerby.)

PLANORBIS PHILIPPINARUM. *Pla. testū depressā, griseā, subopacā; anfractibus senis, subcompressis, suprā infrāque convexi-scalis, medio obtusissimā angustatis; disco inferiori planulato; disco superiori magis concavo; aperturā supernā paulò elevatā.*

THE PHILIPPINE PLANORBIS. Shell depressed, grey, rather opaque; whorls six, rather compressed, rather convex above and below, very obtusely

angular in the middle; lower disc flattened, upper disc more concave; aperture a little raised above.

DUNKER. C. B. Adams. P. Z. 1848.

Hab. Philippines.

This shell is stouter and deeper than the preceding, and the discs are less flattened.

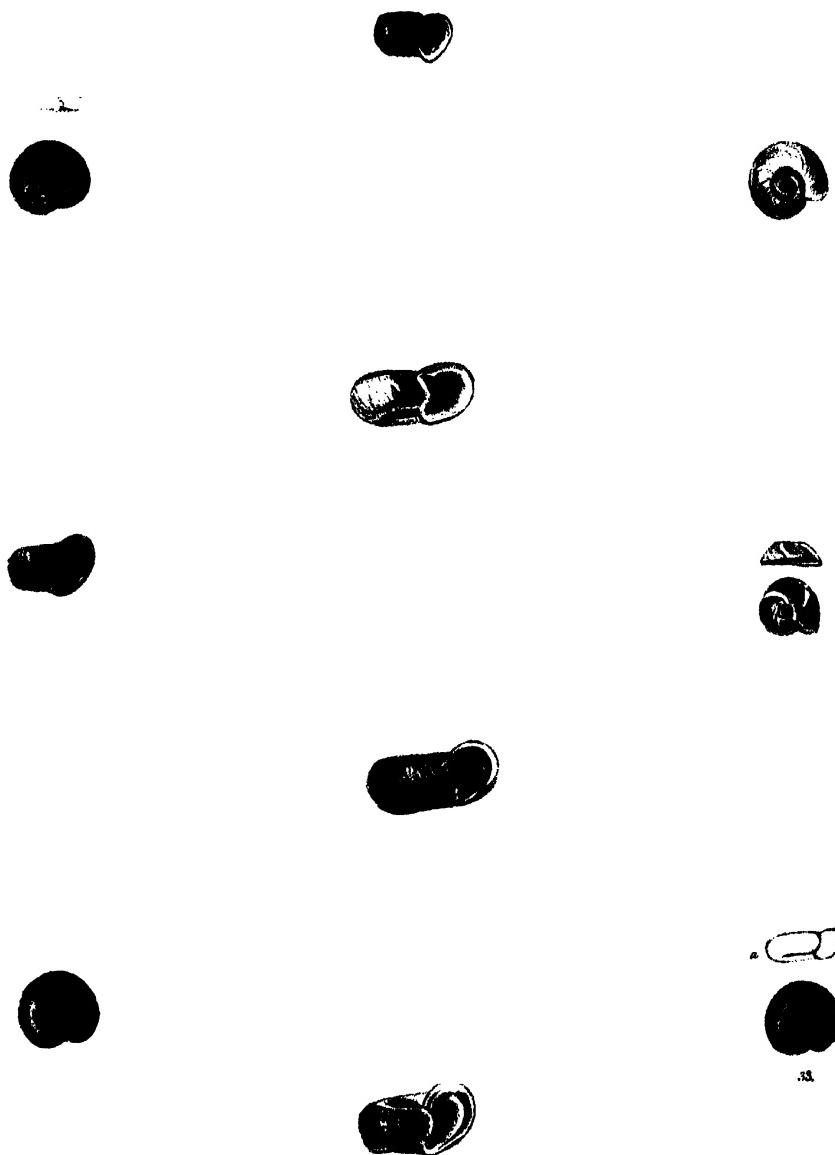
Species 24. (Mus. Sowerby.)

PLANORBIS LUGUBRIS. *Pla. testū alti-scali, tenui, levigata, nitentī, castaneā; anfractibus quinīs, supernā rotundis, lati-scalis, infrā magis contractis; disco superiori profundiè excavato, disco inferiori subcirculari, subcontracto.*

THE DARKSOME PLANORBIS. Shell rather deep, thin, smooth, shining, chestnut; whorls five, rather rounded above, rather broad, more contracted below; upper disc deeply excavated; lower disc greenish, rather contracted.

WAGNER. Spix, Testacea Brasiliana. P. 27, No. 2.

Hab. Brazil.



PLANORBIS.

PLATE IV.

Species 25. (Mus. Sowerby.)

PLANORBIS BIANGULATUS. *Pla. testā altiusculā, solidā, fumoso-fuscā, utrinquā angulatim latē umbilicata dextrali; anfractibus paucis, suprā infrāque subcarinatis, aperturā subtrigonā, declīvi, infrā acuminatā labio externo intus incrassato.*

THE TWO-ANGLED PLANORBIS. Shell rather high, solid, smoky-brown, angularly broadly umbilicated on each side; whorls few, keeled above and below; aperture subtrigonal; sloped, acuminate below; outer lip thickened within.

—? Sowerby.

Hab. Brazil.

The whorls are not flattened at the top, as in *Planorbis bicarinatus*, but the lower funnel-shaped umbilicus is very similar.

Species 26. (Fig. a, b, Mus. Brit.)

PLANORBIS COSTULATUS. *Pla. testā parvā, compressissimā, obliquè concentricè costulatā, carulco-subcirculari; anfractibus paucis, rapide crescentibus, supernè lenti convervis, ultimo magno; aperturā obliquè subovatā, disco inferiori subplanulato.*

THE RIBBED PLANORBIS. Shell small, very compressed, obliquely concentrically ribbed, greenish blue; whorls few, rapidly increased, slightly convex above, last large; aperture obliquely rather oval; lower disc a little flattened.

KRAUSS. Sudafrican. Mollusken. Tab. V. f. 8.

Hab. Natal.

Species 27. (Fig. a, b, Mus. —? Copied.)

PLANORBIS BENGALENSIS. *Pla. testā compressā, tenui, pallidè succinatā, levi, supernè convexā, infrā planulatā, anfractibus tribus, apicalibus paulò depressis; umbilico basali parvo; aperturā subtrigonā.*

THE BENGAL PLANORBIS. Shell compressed, thin, pale amber, smooth, convex above, flattened below, whorls three, apical a little depressed, basal umbilicus small; aperture subtrigonal.

DUNKER. Index Molluscorum. Tab. II. f. 1-4.
Hab. Bengal.

This shell does not appear from Dunker's figure to have the chambered character of the *Segmentina* group, as shown in *Planorbis calathus*, which it somewhat resembles otherwise, although not nearly so tumid.

Species 28. (Mus. Sowerby.)

PLANORBIS AFFINIS. *Pla. testā cornēi, tumidi; spirā concavā, anfractibus quinis altiusculis, prope suturam subangulatim elevatis, tum declīvis, infrā rotundatis, apicali obtecto; aperturā unijuscumā, supernè depresso.*

THE RELATED PLANORBIS. Shell horny, tumid; spire concave, whorls five, rather high, subangularly elevated near the suture, then sloped, rounded beneath, the apical one hidden; aperture rather large, depressed above.

ADAMS, C. B. Conchological Contributions, p. 44.
Hab. Jamaica.

More depressed and slight than *Planorbis cornutus*, with the whorls beneath more deeply sunk in the umbilicus.

Species 29. (Mus. Brit. Sowb.)

PLANORBIS DECLIVIS. *Pla. testi alti, angustiusculi, cornēi vel subcastanatā, tenuissimè tiratā; spirā planiusculā, anfractibus angustis, ultimo magno, supernè angustè elevato, tum declīvi, infrā rotunda, disco inferiori profundè concavo, anfractibus rotundis; aperturā magnā, auriformi, infrā caldi expanso, producto.*

THE SLOPED PLANORBIS. Shell raised, rather narrow, horny, or chestnut, very finely ridged; spire rather flat, whorls narrow, last large, narrowly raised above, then sloped, rounded below, lower disc deeply concave, whorls rounded, aperture large, ear-shaped, much expanded and produced below.

SOWERBY.

Hab. —?

Differing from *Planorbis cornutus* in the narrowness and elevation of the whorls, and in the great expansion and production of the lower part of the mouth.

PLANORBIS.—PLATE IV.

Species 30. (Fig. 1, a, b, Mus. Hanley.)

PLANORBIS CALATHUS. *Pla. testā parvā, dextrali, nitenti, succinē, internē segmentatā, extē fasciis albī obliquē radiantibus ornatā, supernē convexā, infrā planulatā, spirā valde contractā; anfractibus tribus, ultimo magno, subconico, infrā acutē angulato, angustē umbilicato.*

THE BASKET PLANORBIS. Shell small, dextral, shining, amber, divided by segments within, ornamented without by white rayed bands, convex above, flattened below; spire much contracted, whorls three; last large, somewhat conical, acutely angular, narrowly umbilicated.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. V. (1850), p. 349.

Hab. Moradabad, Kattiawar, Ceylon, Cashmere.

Belonging to the 'Segmentina' group.

Species 31. (Mus. Hanley.)

PLANORBIS EXUSTUS. *Pla. testā subviridi, fuso, tenuiter liratā, spirā subplanulatā, anfractibus tribus, ultimo maximo, aperturā supernē subangulatim elevata, tum depresso, declivī, infrā expansā, subproductā, disco inferiori latē concavo.*

THE BURNT PLANORBIS. Shell greenish brown, finely ridged; spire rather flattened; whorls three, last large; aperture angularly raised, then depressed, sloped, expanded below, rather produced; lower disc broadly concave.

DESHAYES. Belanger's Voyage. Ind. Ori. Zool. p. 417.

Planorbis Indicus. Benson.

This appears quite distinct from *Planorbis coromandelicus* in form and surface.

Species 32. (Fig. a, b, Mus. —? Copied.)

PLANORBIS NATALIS. *Pla. compressā, fumoso-fuscā; spirā subplanulatā, anfractibus quaternis, rotundis; ultimo lato, medio prominenti; disco inferiori latē concavo; aperturā compressā, lateraliter elongatā.*

THE NATAL PLANORBIS. Shell smoky brown; spire rather flat, whorls four, rounded; last broad, prominent in the middle; lower disc broadly concave, aperture compressed, laterally elongated.

KRAUSS. Sudafricanischen Mollusken. Tab. V. f. 9.
Hab. Cape Natal, S. Africa.

Species 33. (Mus. —? Copied.)

PLANORBIS PFEIFFERI. *Pla. testā olived, levī, sub-compressā; spirā subcomplanatā, anfractibus tu-midis, rotundis, supernē convexiūsculis, infrā an-gustatis; aperturā rotundē subquadratā; disco inferiori angustē umbilicato.*

PFEIFFER'S PLANORBIS. Shell olive, smooth, rather compressed; spire rather flattened, whorls timid, rounded, convex above, narrow below; aperture roundly subquadrate; lower disc narrowly umbilicated.

KRAUSS. Sudafricanischen Mollusken. Tab. V. f. 33.
Hab. Cape Natal, South Africa.

Species 34. (Mus. Brit.)

PLANORBIS COROMANDELICUS. *Pla. testā altā, castaneo-cornatā, tenui, irrigatā, irregulariter undatā; spirā contractā, concavā; anfractibus quaternis, supra suturam angulatim elevatis, perpendiculariter sub-complanatis; ultimo magno, ad aperturam ex-panso; aperturā supra suturam elevato, tum declivī, infrā obliquā expansā, productā; disco inferiori concavo, anfractibus rotundis, apicali obtecto.*

THE COROMANDEL PLANORBIS. Shell high, chestnut-horny, smooth, irregularly undated; spire contracted, concave; whorls four, angularly raised above the suture, perpendicularly flattened, last large, expanded towards the aperture; aperture raised above the suture, then sloped, obliquely expanded, produced; lower disc concave, whorls rounded, apical one hidden.

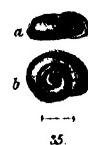
KÜSTER, as of Fabricius.

Hab. Co. of Coromandel.





36.



35.



37.



38a



a



b

38



a



b

38



38b



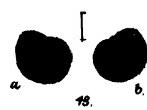
38c



a



b



42.



a



b

PLANORBIS.

PLATE V.

Species 35. (Fig. a, b, Mus. Brit.)

PLANORBIS SIBERICUS. *Pla. testā parvā, tumidā, dextrā, rubescēti-corneā; spirā planulatā, anfractibus tribus ad quaternos, tumidis, subrotundis; disco inferiori vallē concavo, anfractu apicali profundè obtecto; aperturā obliquè subovatā.*

THE SIBERIAN PLANORBIS. Shell small, tumid, dextral, reddish horn; spire flattened, whorls three to four, tumid, rather round; lower disc very concave, apical whorl deeply hidden; aperture obliquely subovate.

DUNKER. Proc. Zool. Soc. 1848, p. 42.

Hab. Siberia.

Species 36. (Fig. a, b, Mus. Brit.)

PLANORBIS STELZNERI. *Pla. testā dextrā, pallidissimè fulvā, solidā, compressā, disco superiori complanato, inferiori ad marginem convexo, tūm angulato, planulato, medio latè umbilicato; anfractibus quinis, supernè convexiūsculis, supra medium subangulatis, tūm versus columellam inclinatis; aperturā obliquè subovatā.*

STELZNER'S PLANORBIS. Shell dextral, very pale fulvous, solid, compressed; upper disc flattened, lower convex at the margin, then angular, flattened, broadly umbilicated in the middle; whorls five, rather convex above, subangular above the middle, then sloped inwards towards the columella; aperture obliquely subovate.

DOHRN. Proc. Zool. Soc. 1858.

Hab. Ceylon.

Species 37. (Fig. a, b, Mus. Brit.)

PLANORBIS GILBERTI. *Pla. testā subcompressā, dextrali, tenui, ferè albā; spirā parvā; anfractibus tribus; ultimo magno, tumido, supernè subconico, infra medium obtusè angulato; disco inferiori planulato, umbilicato; aperturā angustā, infra medium angulatā.*

GILBERT'S PLANORBIS. Shell subcompressed, dextral, thin, almost white; spire small; whorls three,

last large, tumid, rather conical above, obtusely angular below the middle; lower disc flattened, umbilicated; aperture narrow, angular below the middle.

DUNKER. Proc. Zool. Soc. 1848, 40.

Hab. East Australia.

Species 38. (Fig. a, b, c, Mus. Brit.)

PLANORBIS EBURNENSIS. *Pla. testā albi, tumidā, undulatā, lari, albā, medio anfractuum castaneā fasciatā; apice parvo, anfractibus tribus, supernè subplanulatis, tūm deelictibus, infrā inflatis, ultimo magno, alto, rapidè crescenti; disco inferiori convexo, anfractu apicali obtecto; aperturā magno, supernè flexuosim depresso, infrā inflatā, producta.*

THE IVORY PLANORBIS. Shell high, tumid, undulating, smooth, white, banded with chestnut in the middle of the whorls; apex small, whorls three, rather flattened above, then sloped, inflated below; last large, high, rapidly increased; lower disc convex, apical whorl hidden; aperture large, flexuously depressed above, inflated below, produced.

GRAY —? MS. Mus. Brit.

Hab. Ceylon.

Species 39. (Fig. a, b, Mus. Brit.)

PLANORBIS OBTUSUS. *Pla. testā compressā, subrugosā, ferrugineā, apice lato, planulato; anfractibus quinis, lentè crescentibus, convexiūsculis, supernè subdeelictibus, infrā obtusè angulatis, infra angulum planulatis; aperturā obliquè subovatā, infrā obtusè angulatā.*

THE OBTUSE PLANORBIS. Shell compressed, rather rough, ferruginous, apex broad, flattened; whorls five, slowly increased, rather convex; rather sloped above, obtusely angular below, flattened below the angle; aperture obliquely subovate, obtusely angular below.

DESHAYES. Proc. Zool. Soc.

Hab. Adelaide.

PLANORBIS.—PLATE V.

Species 40. (Fig. a, b, Mus. Brit.)

PLANORBIS BRUNNEUS. *Pla. testâ subglobosâ, altâ, laevi, ferruginea, spirâ parvâ, anfractibus tribus, supernè contractis, suprâ suturam, elevatis, subangulatis, tum rotundis, medio inflatis; disco inferiori angustè umbilicato, aperturâ semilunari, infrâ productâ, expansâ.*

THE BROWN PLANORBIS. Shell subglobose, high, smooth, ferruginous, spire small, whorls contracted above, raised, a little angular above the suture, then rounded, inflated in the middle; lower disc narrowly umbilicated; aperture semi-lunar, produced and expanded below.

GRAY. Adams. Genera.

Hab. Bombay.

Species 41. (Fig. a, b, Mus. Brit.)

PLANORBIS MACNABIANUS. *Pla. testâ tenuissimâ, pellucida, succinæ, utrinque planulatâ, compressissimâ; anfractibus septenis, lentissimè crescentibus, aperturâ subrhomboiden; infrâ angulatâ.*

MACNAB'S PLANORBIS. Shell very thin, pellucid, amber, flattened on both sides, very compressed; whorls seven, very slowly increased; aperture subrhomboidal, angular below.

ADAMS, C. B. Conchological Contributions, p. 42.

Hab. Jamaica.

Species 42. (Mus. Brit.)

PLANORBIS TENIATUS. *Pla. compressâ, dextrâ, pallidâ cornea; spirâ parvâ, anfractibus quaternis vel quinque, internis tribus angustissimis, ultimo tumido, latiusculo, utrinque rotundato; medio fasciato, aperturâ obliquè oblongâ.*

THE RIBBON PLANORBIS. Shell compressed, dextral, pale horny; spire small, whorls four or five, inner three very narrow; last tumid, rather broad, rounded on both sides, banded in the middle, aperture obliquely oblong.

MORELET. Adams. Genera.

Hab. Isle of Pines.

Species 43. (Fig. a, b, Mus. Brit.)

PLANORBIS STAGNICOLA. *Pla. testâ dextrali, complanata, olivacea, minutissimè lirata, supernè concava, anfractibus tribus, rapidè crescentibus, ultimo latè; aperturâ obliquè subovata; disco inferiori concava, anfractibus conspicuis, planulatis.*

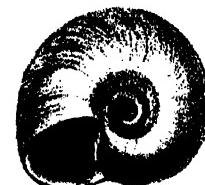
THE STILL-WATER PLANORBIS. Shell dextral, flattened, olive, very finely ridged; rather convex above; whorls three, quickly increasing, last broad; aperture obliquely subovate; lower disc concave; whorls conspicuous, flattened.

MORELET. —? Adams. Gen. of Shells.

Hab. —?

Very like *Planorbis albus* in form, but of a dark green colour, and finely wrinkled.





51a.



52a.



52b.

PLANORBIS.

PLATE VI.

Species 44. (Fig. a, b, Mus. Brit.)

PLANORBIS HINDSIANUS. *Pla. testā parvā, dextrali, compressā, pallidē succinēd, supernē convexā, infrā concavā, laevi; spirā parvā, anfractibus tribus, duobus apicalibus angustis, ultimo lato, rapidē crescenti; aperturā lata, perobliquā.*

HINDS' PLANORBIS. Shell small, dextral, compressed, pale amber, convex above, concave below, smooth, spire small, whorls three, two apical narrow, last broad, rapidly enlarged; aperture broad, very oblique.

DUNKER. Proc. Zool. Soc. 1848, p. 41.

Hab. Puna Islands.

Species 45. (Fig. a, b, Mus. Brit.)

PLANORBIS CATILLUS. *Pla. testā utrinque compressā, parvā, albā, dextrali; spirā compressā, anfractibus quinis, angustis, tenuē crescentibus, infrā angulatis; aperturā obliquē suborbatā, angustiūsculā, anticē productā, margine inferiori subangulatā.*

THE LITTLE DISH PLANORBIS. Shell compressed on both sides, small, white, dextral, spire compressed, whorls five, narrow, slowly increased, angular below; aperture obliquely subovate, rather narrow, anteriorly produced, lower margin rather angular.

ANTON. —? Adams. Genera of Mollusca.

Hab. —?

Species 46. (Fig. a, b, Mus. Brit.)

PLANORBIS SALLEANUS. *Pla. testā tumida, dextrali, ferruginea, laeviūsculā; spirā subcompressā, angustā; anfractibus quaternis, altis, supernē angustatis, infra medium inflatis; aperturā subobliquā oratā, anticē subexpansā; disco inferiori lato, umbilicato.*

SALLE'S PLANORBIS. Shell tumid, dextral, ferruginous, rather smooth; spire rather compressed, narrow; whorls four, raised, narrow above, inflated below the middle; aperture rather obliquely

ovate; anteriorly rather expanded; broadly umbilicated.

DUNKER. Proc. Zool. Soc. 1853, p. 54.

Hab. St. Domingo.

Species 47. (Fig. a, b, Mus. Brit.)

PLANORBIS INFLATUS. *Pla. testā magna, robustā, alta, levigata, pallidē olivacei, infra medium intusque castaneā; spirā parvā, profundē concavā; anfractibus quaternis, apicalibus tribus parvis, ultimo altissimo, supra suturam perdecurato, rotundo, infra medium magis inflato; disco inferiori concavo, anfractu apicali obtuso; aperturā subaniformi, altā, margine inferiori subexpanso.*

THE INFLATED PLANORBIS. Shell large, robust, high, smooth, pale olive, chestnut below the middle and within; spire small, deeply concave; whorls four, three apical small, last very high, much raised above the middle, round, more inflated below the middle; lower disc concave, apical whorl hidden; aperture rather ear-shaped, lower margin a little expanded.

DUNKER. Proc. Zool. Soc. 1848, p. 40.

Hab. —?

Species 48. (Fig. a, b, Mus. Brit.)

PLANORBIS CIRCUMLINEATUS. *Pla. testā succinēd, subpellucidā, tumidiūsculā, dextrali, laevi; spirā parvā, anfractibus quaternis, rapidē crescentibus, ultimo lato, prope aperturam subexpanso, aperturā obliquā suborbatā, angustiūsculā, infra paulo expansā.*

THE CIRCUMLINEAR PLANORBIS. Shell amber, rather pellucid, rather tumid, dextral, smooth; spire small, whorls four, rapidly increasing, last broad, a little expanded near the aperture; aperture obliquely subovate, rather narrow; a little expanded below.

SHUTTLEWORTH. —? MS. Mus. Brit.

Hab. Porto Rico.

PLANORBIS.--PLATE VI.

Species 49. (Fig. a, b, Mus. Brit.)

PLANORBIS TERVERSANUS. *Pla. testâ tumidâ, palli-dissimile cornuâ, levigatâ; spirâ parrâ, planulatâ, anfractibus tribus, ultimo tumido, supra suturam rotundâ elevato; aperturâ obliquâ, angustâ, supernè subdilatâ; disco inferiori concavo.*

THE THREE-TURNED PLANORBIS. Shell tumid, very pale horn, smooth; spire small, flattened; whorls three, last tumid, roundly elevated above the suture; aperture oblique, narrow, rather dilated above; lower disc concave.

D'ORBIGNY. —? MS. Coll. Cum. in Brit. Mus.

Hab. St. Thomas, West Indies.

Species 50. (Fig. a, b, Mus. Brit.)

PLANORBIS ANDECOLUS. *Pla. testâ albâ, altâ, dextrali; spirâ subcomplanatâ, anfractibus tribus, convexis; ultimo maximo, altissimo versus marginem superiorem et paulò supra medium, angulato infrâ, ad marginem inferiorem subcarinato, post carinam latè et profundè umbilicato; aperturâ paulò depresso, trigonâ, anticè productâ, acuminatâ, supernè latâ, subdepressâ.*

THE PLANORBIS OF THE ANDES. Shell white, high, dextral; spire rather flattened; whorls three, convex; last very large, very high, angular near the upper margin and a little above the middle,

slightly keeled at the lower margin, broadly and deeply umbilicated behind the keel; aperture a little depressed, trigonal, anteriorly produced, acuminate, broad, rather depressed above.

D'ORBIGNY. *Voyage dans l'Amérique Méridionale*, Pl. XLV.

Hab. South America.

Species 51. (Mus. Brit.)

PLANORBIS TENAGOPHILUS. *Pla. testâ, compressâ, solidâ, griseo-fulgâ; utrinque concavâ; apice umbilicato; anfractibus quinque, supra suturam angulatis; ultimo magno, supernè declivis, infrâ subventricosâ, disco inferiori lato, versus marginem complanato, medio (et profundè) umbilicato.*

THE SHALLOW-WATER PLANORBIS. Shell broad, compressed, solid, fulvous-gray; concave on each side; apex umbilicated; whorls five, angular above the suture, last large, sloped above, somewhat ventricose below, lower disc broad, flattened towards the margin, umbilicated (not deeply) in the middle.

D'ORBIGNY. *Voy. Amér. Meridionale*, Pl. XLV., f. 17-20.

Hab. South America.

The funnel-shaped umbilicus on the spire is narrower and more decidedly angular than in *Planorbis commutatus*.



52.



53.



54.



55.a



56.



57.b



57.b



58.a



58.b



59

PLANORBIS.

PLATE VII.

Species 52. (Fig. a, b, Mus. Brit.)

PLANORBIS KERMATOIDES. *Pla. testū subcompressā, abditiā, suprā truncato-conicā, infrā planulatā, carinatā, ad medium umbilico infundibuliforme excavato; spirā depressā, anfractibus quaternis, ultimo magno.*

THE SHEAR-SHAPED PLANORBIS. Shell a little compressed, whitish, truncato-conical above, flattened below, keeled, hollowed in the middle, with a funnel-shaped umbilicus; spire depressed, whorls four, last large.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLV., f. 1-4.

Hab. S. America.

Species 53. (Mus. Brit.)

PLANORBIS LUCIDUS. *Pla. testū compressā, semipelucidā, larei, obscurè castaneo-cornicā; spirā depressā, anfractibus quinis subplanulatis, ultimo convexo, infra medium subangulato; disco inferiori concavo, angustiūculo, aperturā subquadratā, infrā latiūculā.*

THE LUCID PLANORBIS. Shell compressed, semipellucid, smooth, chestnut-horn; spire depressed, whorls five, rather flat, last convex, rather angular below the middle; lower disc concave, rather narrow, aperture rather square, rather broad below.

PHILIPPI — ? MS. Brit. Mus.

Hab. — ?

Species 54. (Fig. a, b, Mus. Brit.)

PLANORBIS SEPTEMGYRATUS. *Pla. testā valde depresso, utrinque concavā, fusco-subviridi, anfractibus septenis, angustissimis, ultimo angusto, aperturā parvā, obliquè ovoidā.*

THE SEVEN-WHORLED PLANORBIS. Shell much de-

pressed, concave on both sides, brownish-green, whorls seven, very narrow, last narrow; aperture small, obliquely ovate.

ZEIGLER — ? MS. Brit. Mus.

Hab. Vienna.

A remarkably thin, wafer-like shell.

Species 55. (Fig. a, b, Mus. Sowerby.)

PLANORBIS BECKIANUS. *Pla. testū tumidā, sinistrā, levigatā, cornicā, medio anfractuum et infrā castanēa, spirā depressā, anfractibus quaternis, supra suturam elevatis, rotundis, ultimo maximo, ventricoso, rotundo, infrā latiūculo, aperturā magnā: disco inferiori profundè excavato, anfractu apicali oblecto.*

BECK'S PLANORBIS. Shell tumid, sinistral, smooth, horn, chestnut at the middle of the whorls and below; spire depressed, whorls four, raised above suture, rounded, last large, ventricose, rounded, rather broad below; aperture large, lower disc deeply excavated, apical whorl hidden.

DUNKER — ? Ad. Gen. of Sh.

Hab. — ?

Little differing from *Planorbis cornutus*, but with the whorls more uniformly rounded than in that somewhat variable species.

Species 56. (Fig. a, b, Mus. Brit.)

PLANORBIS PALLIDUS. *Pla. testā tumidiūculā, larei, pallidā cornicā, utrinque subcomplanatā; spirā angustatā, anfractibus quaternis, rapidè crescentibus, ultimo latiūculo, superne declivi, infra medium inflato, disco inferiori subcomplanato; aperturā obliquè subovatā, margine superiori sinuatim producta, depresso.*

PLANORBIS.—PLATE VII.

THE PALE PLANORBIS. Shell rather tumid, smooth, pale horn, flattened on each side; spire narrow, whorls four, quickly increasing, last rather broad, sloped above, inflated below the middle; lower disc a little flattened; aperture obliquely subovate, lower margin sinuously produced, depressed.

C. B. Adams. Basl. Proc. Nat. Hist. Vol. II. p. 102.
Hab. Jamaica.

Species 57. (Fig. a, b, Mus. Brit.)

PLANORBIS CHILENSIS. *Pla. testū tumidiūsculū, albū, supernū complanatā; infrā concavā; aufractilis quinīs, medioriter crescentib⁹, ultimo tumido; aperturā magnā, subquadratā, margine inferiori rectiūsculo.*

THE CHILI PLANORBIS. Shell rather tumid, white, flattened above, concave below; whorls five, moderately increased, last tumid; aperture large, rather square, lower margin rather straight.

ANTON —? MS. Brit. Mus.
Hab. Chili.

Species 58. (Fig. a, b, Mus. Brit.)

PLANORBIS LANIERANUS. *Pla. testū depresso, coru- castanē, translucidū, levigatā; spirā compressā, parvā; aufractibus quaternis, ultimo supernū la- tiūsculo, infrā angustiori, aperturā angulatā.*

LANIER'S PLANORME. Shell depressed, horny chestnut, translucent, smooth; spire compressed, small; whorls four, last rather broad above, rather narrower below.

D'ORBIGNY. Moll. Cuba.

Hab. Isl. Cuba.

Species 59. (Fig. a, b, Mus. Brit.)

PLANORBIS ROSSMÄSLERI. *Pla. testū parvū, compressū, ferrugineū; spirā subcomplanatā, aufractibus qua- ternis, rapidē crescentib⁹, rotundis; disco inferiori umbilicato; aperturā obliquē ovalā.*

ROSSMÄSLER'S PLANORBIS. Shell small, compressed, ferruginous; spire rather flattened, whorls four, quickly increased, rounded; lower disc umbilicated; aperture obliquely ovate.

SCHMIDT —? Adams, Genera of Shells.
Hab. Anerswald, near Leipsic.



61.



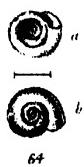
60.



62.



63 a



64.



65.



63 b



66.



67.



68

P L A N O R B I S.

PLATE VIII.

Species 60. (Fig. a, b, Mus. Brit.)

PLANORBIS SPENCERI. *Pla. testā parvā, flavido-fuscā, subdepressā, sinistrā, levigatā; spirā complanatā, parvā, anfractibus quaternis, ultimo latiusculo, supernè convexivisculo, ad marginem obscurissimè angulato, infra angulum angustatā; disco inferiori excavato; aperturā semilunari.*

SPENCER'S PLANORBIS. Shell small, yellowish-brown, subdepressed, sinistral, smooth; spire flattened, small, whorls four, last rather broad, rather convex above, very obscurely angular at the margin, narrowed below; lower disc excavated; aperture semilunar.

ALLEN —? MS. Brit. Mus.

Hab. Portugal.

Species 61. (Fig. a, b, Mus. Brit.)

PLANORBIS NITIDULUS. *Pla. testā tenui, pellucida, pallidissimè corneā, tumidiūsculis; spirā planiūscula, medio excavata, angustā, anfractibus quaternis, utrinque tumidiūsculis; disco inferiori excavata; aperturā supernè lato, infrā angustato.*

THE NEAT LITTLE PLANORBIS. Shell thin, pellucid, very pale horn, rather tumid; spire rather flat, a little excavated in the middle, narrow; whorls four, rather tumid on each side; lower disc excavated; aperture broad above, narrow below.

DUNKER. Proc. Zool. Soc. 1848, p. 40.

Hab. Malacca.

Species 62. (Fig. a, b, Mus. Brit.)

PLANORBIS UNGULATUS. *Pla. testā latā, depressā, arcuatā, corneo-rubescēti; spirā via convexā, anfractibus septenis, lentē crescentibus, supernè angulatis, subcarinatis; disco inferiori convexo; aperturā obliquā, supernè acutā angulatā, productā.*

THE TALONED PLANORBIS. Shell broad, depressed,

arched, reddish-horny, spire hardly convex; whorls seven, slowly increased, angular above, somewhat keeled, lower disc convex; aperture oblique, sharply angular above, produced.

CHITTY —? MS. Brit. Mus.

Hab. Jamaica.

The sharp prominent angle in the margin of the whorls, with the slightly arched under surface, gives the profile of this shell a talon-like appearance.

Species 63. (Fig. a, b, Mus. Brit.)

PLANORBIS COMMUTATUS. *Pla. testā sinistrali, tumida, ventricosa, pallidè fuscā, tenui; spirā infundibulatā; anfractibus quinīs, angulatis, supernè angustatis, infrā ventricosis, rotundis; disco inferiori profundè umbilicato, anfractu apicali obtecto; aperturā rotundo-subtrigonā.*

THE CHANGED PLANORBIS. Shell sinistral, tumid, ventricose, pale brown; spire funnelled, whorls five, angular, narrow, ventricose, rounded below; lower disc deeply umbilicated, apical whorl hidden; aperture roundly subtrigonal.

DUNKER —? MS. Brit. Mus.

Hab. N. America.

Species 64. (Fig. a, b, Mus. Brit.)

PLANORBIS ARCTICUS. *Pla. testā pareā, pallidè fulvā, subdepressā; spirā parvā, paulò excavata; anfractibus tribus, rotundis, rapidè crescentibus, tumidiūsculis, disco inferiori latè umbilicato, aperturā rotundā.*

THE ARCTIC PLANORBIS. Shell small, pale fulvous, rather depressed; spire small, a little excavated; whorls three, rounded, quickly increasing, rather tumid, lower disc broadly umbilicated; aperture rounded.

BECK —? MS. Mus. Brit.

Hab. Greenland.

PLANORBIS.—PLATE VIII.

Species 65. (Fig. a, b, Mus. Brit.)

PLANORBIS GRACILENTUS. *Pla. testā dextrali, albida, opacā; spirā planiāculā; anfractibus quinīs, apicalibus angustis, exterius latiāculis, ad aperturam subdilatatis; aperturā subtrigonā; disco inferiori latē umbilicato.*

THE SLENDER PLANORBIS. Shell dextral, whitish, opaque; spire rather flat; whorls five, apical narrow, external rather broad; a little dilated at the aperture; aperture a little trigonal; lower disc broadly umbilicated.

GOULD —? MS. Brit. Mus.

Hab. Colorado Desert.

Species 66. (Fig. a, b, Mus. Brit.)

PLANORBIS DEPRESSISSIMUS. *Pla. testā complanatā, vulnē depressā, pellucidā, pallidē cornetā, spirā complanatā; anfractibus septenīs, tenuībus, lente crescentibus, supernē ad marginem acutē angulatis; disco inferiori planulato; aperturā lateraliter elongatā, angulo externo acuto.*

THE VERY FLAT PLANORBIS. Shell flattened, much depressed, pellucid, pale horn, spire flattened; whorls seven, thin, slowly increased, at the margin above sharply angular; lower disc flattened; aperture laterally lengthened, outer angle sharp.

MORICAND —? MS. Mus. Brit.

Hab. —?

The whorls are perhaps the flattest of any in the genus.

Species 67. (Fig. a, b, Mus. Brit.)

PLANORBIS SUBANGULATUS. *Pla. testā pallidē cornetā, tumidiūsulcā, sinistrali; anfractibus tribus, rapidē crescentibus, supernē convexis, latiāculis; disco superiori lato, convexo; inferiori subangulato, excavato; aperturā supernē lateraliter productā, infrā versus medium inclinato.*

THE SUBANGULAR PLANORBIS. Shell pale, horny, rather tumid, sinistral whorls three, quickly increased; convex, rather broad; upper disc broad, convex, lower rather angular, excavated; aperture laterally produced above, inclined towards the middle below.

PHILIPPI. Eneycl. 2, Pl. XXI., f. 6.

Hab. Malta, Sicily.

Species 68. (Mus. Brit.)

PLANORBIS SERICEUS. *Pla. testā sinistrali, tumidiūsculā, pallidū fuscā, spirā angustē infundibulatā; anfractibus quinīs, supernē angulatis, angustatis: disco inferiori excavato, anfractibus rotundis; aperturā subtrigonā, infrā expansā, rotundā.*

THE CHICORY PLANORBIS. Shell sinistral, rather tumid, pale brown, spire narrowly funnelled; whorls five, angular above, narrow; lower disc excavated, whorls rounded; aperture subtriangular, expanded, rounded below.

DUNKER. Proc. Zool. Soc. 1848, 42.

Hab. —?

Differing from *Planorbis commutatus* in the proportionate narrowness of the whorls, and the funnel-shaped excavation is more angular, distinct, and narrow.



70



69.



71.



73^a.



72^a.



73^b



72^b



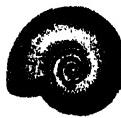
72^c



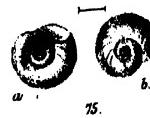
b

74

a



76



a

b

PLANORBIS.

PLATE IX.

Species 69. (Mus. Brit.)

PLANORBIS ELEGANTULUS. *Pla. testū obliquū compressū, pellucidā, cornēd, dextrali, tenuiter striatā, supernē convexā, infrā concavā; spirā parrā, anfractibus tribus, ultimo lato, ad aperturam obliquū expanso; aperturā perobliquū ovatā.*

THE ELEGANT PLANORBIS. Shell obliquely compressed, transparent, horny, dextral, finely striated, convex above, concave below; spire small, whorls three, last wide, obliquely expanded at the aperture; aperture very obliquely ovate.

DOHRN. Proc. Zool. Soc. 1858, p. 134.

Hab. —?

Species 70. (Mus. Hanley.)

PLANORBIS TROCHOIDEUS. *Pla. testū tumidiūsculū, tenui, semipellucidā, subviridi, distanter concentricā alboscapulariā, supernē convexā, infrā subcomplanatā, angustissimā umbilicatā, internē segmentatā; spirā angustissimā, ultimo anfractu supraē late expanso; infra medium angulata, acutē carinata.*

THE TROCHIFORM PLANORBIS. Shell rather tumid, thin, semipellucid, rather green, distantly concentrically banded with white, convex above, rather flattened below, very narrowly umbilicated, internally divided in segments; spire very narrow, last whorl broadly expanded above; angular below the middle, acutely keeled.

BENSON. Asiatic Society Bengal, 1836, p. 742.

Hab. Barrackpore.

Remarkable for the way in which the outer whorl covers the inner, and the very small opening left in the centre of the upper and under discs.

Species 71. (Mus. Brit.)

PLANORBIS MORICANDI. *Pla. testū sinistrali, tumida, ferruginea; spirā angustē infundibulatā, anfractibus supra suturam angulatum elevatis; ultimo litē declivi; aperturā trigonā, infra medium subangulatā, infrā subrotundatā; disco inferiori umbilicato.*

MORICAND'S PLANORBIS. Shell sinistral, tumid, ferruginous; spire narrow, with narrow funnel-shaped cavity, whorls raised angularly above the suture, last broadly sloped; aperture trigonal, rather angular below the middle, a little rounded underneath; lower disc umbilicated.

BECK. Adams, Genera of Shells.

Hab. —?

A narrower shell than *Planorbis tenuaphilus*, with the funnel-shaped opening more narrow and angular.

Species 72. (Fig. a, b, c, Mus. Brit.)

PLANORBIS MULTIVALVIS. *Pla. testū cornēd, sinistrali, altā; spirā exsertā, subturreta; anfractibus septenis, supernē angustatis angulatis, ultimo compresso, alto, propè aperturam contracto tumido, ad aperturam expanso; aperturā elevatā, margine expanso; disco inferiori profundē umbilicato; anfractibus rotundis, tribus apicalibus oblectis.*

THE MANY-WHORLED PLANORBIS. Shell horny, sinistral, high, spire exserted, subturreted; whorls seven, narrow and angular above, last compressed, deep, contracted near the aperture, then tumid, expanded at the aperture; aperture raised, margin expanded, lower disc deeply umbilicated; whorls rounded, three apical hidden.

CASE. Adams, Genera of Shells.

Hab. Lake Superior, Michigan.

In the contraction and swelling of the last whorl near the mouth, and expansion of the lip, this shell resembles *Planorbis campanulatus*, but the whorls of the spire are more numerous and are pushed out conically.

Species 73. (Fig. a, b, Mus. Brit.)

PLANORBIS FERRUGINEUS. *Pla. testū tumida, centri cosd, sinistrali, castaneo-cornēd; spirā convolutā, anfractibus senis, subangulatis, supra suturam elevatis, infra angulum subdeclinibus, ultimo lato, infrā subconvexā; aperturā obliquā subtrigonā; disco inferiori latē concavo; anfractibus subrotundis.*

PLANORBIS.—PLATE IX.

THE FERRUGINOUS PLANORBIS. Shell tumid, ventricose, sinistral, chestnut horn, spire concave; whorls six, rather angular, raised above the suture, rather sloped below the angle, last broad, rather convex below; aperture obliquely subtrigonal; lower disc broadly concave, whorls somewhat rounded.

SPIX. Test. Braz. Tab. XVIII., f. 1-2.

Hab. Brazil.

The whorls are more angular above than is the case in *Planorbis olivaceus*.

Species 74. (Fig. a, b, Mus. Brit.)

PLANORBIS FUSCUS. *Pla. testâ dextrali, depressâ, ferruginea, supernè concurvâ sulcâ, infrâ latè excavatâ; spirâ angustâ; anfractibus tribus, ultimo lato; aperturâ obliquâ angustatâ, marginâ integro.*

THE BROWN PLANORBIS. Shell dextral, depressed, iron-rust, rather convex above, broadly excavated below, spire narrow; whorls three, last broad; aperture obliquely narrow, margin entire.

DUNKER. Proc. Zool. Soc. 1848, p. 42.

Hab. Valparaiso.

Species 75. (Fig. a, b, Mus. Brit.)

PLANORBIS NANUS. *Pla. testâ pallidâ fulvi, dextrali, compressâ, supernè concurvâ sculcâ, infrâ latè et profundè umbilicatâ; spirâ angustâ, complanatâ;*

anfractibus tribus, obliquè striatis, rapido crescentibus, ultimo latissimo; aperturâ depressâ, latissimâ, labio externo supernè obliquè producto.

THE DWARF PLANORBIS. Shell pale fulvous, dextral, compressed, rather convex above, broadly and deeply umbilicated below; spire narrow, flat; whorls three, obliquely striated, rapidly increased, last very broad; aperture depressed, very broad, outer lip obliquely produced above.

BENSON. Proc. Zool. Soc. 1856, p. 186.

Hab. India.

Species 76. (Mus. Brit.)

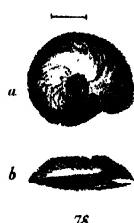
PLANORBIS MODICUS. *Pla. testâ cornu, tumida, sinistrâ, spirâ infundibulata; anfractibus quinque, propè suturam elevatis et angulatis, ultimo latè declivi, concentricâ tenuiter rugatâ; aperturâ subtrigonâ, disco inferiori concavo, anfractibus subplanulatis.*

THE MIDDLE PLANORBIS. Shell horny, tumid, sinistral, spire funnel-shaped; whorls five, raised and angular near the suture, last broad, sloped, concentrically finely wrinkled; aperture subtrigonal, lower disc concave, whorls rather flat.

BENSON. Adams, Genera of Mollusca.

Hab. India.

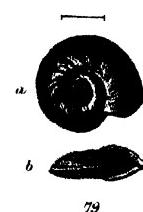
Belonging to the same group as *Planorbis cornuta*, but smaller, with narrow, angular, funnel-like spiral excavation.



78.



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80. a



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80. b



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83



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85

PLANORBIS.

PLATE X.

Species 77. (Fig. a, b, Mus. Hanley.)

PLANORBIS UMBILICALIS. *Pla. testū dextrali, segmentatā, fuscā, tenū, nitenti, levigatā, supernē tumido, infrā planiūsculo, infra medium carinatā; spirā angustatā, planatā; anfractibus tribus, ultimo magno, lato, supra carinam tumido; aperturā obliquè lato, margine superiori sinuālīm producto, disco inferiori medio angustè umbilicato.*

THE UMBILICAL PLANORBIS. Shell dextral, divided in segments, brown, thin, shining, smooth, tumid above, rather flat below, keeled below the middle; spire narrow, flat; whorls three, last large, broad, tumid above the middle; aperture obliquely broad, upper margin sinuously produced, lower disc narrowly umbilicated in the middle.

BENSON. Journ. Asi. Soc. Bengal, Vol. V. p. 741.
Hab. East Bengal.

Species 78. (Fig. a, b, Mus. Hanley.)

PLANORBIS CENOSUS. *Pla. testū dextrali, segmentatā, pallidè subviridi, levigatā, supernē truncato-conicā, infrā subplanulatā, medio angustè umbilicatā; spirā angustissimā, ultimo anfractu latissimo, infra medium acutè carinato; aperturā trigonā, margine suprà infrāque flexuosim depresso.*

THE MIRY PLANORBIS. Shell dextral, divided in segments, greenish, smooth, truncated-conical above, rather flat below, narrowly umbilicated in the middle; spire very narrow, sharply keeled below the middle; aperture trigonal, margin flexuously depressed above and below.

BENSON. Ann. Nat. Hist. 1850, p. 349.
Hab. Near Moradabad, Ceylon.

Species 79. (Fig. a, b, Mus. Hanley.)

PLANORBIS CANTORI. *Pla. testū sordidè subviridi, dextrali, segmentatā, supernē tumidā, infrā convexūsculā, medio umbilicatā; spirā latiūsculā, ultimo anfractu lato, infra medium obtusè carinato;*

aperturā subtrigonā, margine supernē flexuosim producto.

CANTOR'S PLANORBIS. Shell dull greenish, dextral, divided in segments, tumid above, convex below, umbilicated in the middle; spire rather broad, last whorl broad, obtusely keeled below the middle; aperture rather trigonal, upper margin flexuously produced.

BENSON. Ann. Nat. Hist. 1850, p. 349.

Hab. Barrackpore, India.

Species 80. (Fig. a, b, Mus. Brit.)

PLANORBIS PONSONBYI. *Pla. testū dextrali, altissimā, ventricosā, albā, epidermide tenui pallidè flavidi indutā, supernē subconicā, infrā latā et profundè umbilicatā; spirā subturratā; anfractibus duobus, brevibus, subangulatis, ultimo anfractu supernē planulato, marginibus superiori inferiorique carinalis; aperturā latā, subtrigonā, infrā acuminati, supernē expansā.*

TONSONBY'S PLANORBIS. Shell dextral, very high, ventricose, white, covered with a yellowish thin epidermis, a little conical above, broadly and deeply umbilicated below; spire subturreted; whorls two, short, rather angular, last whorl flattened above, upper and lower margin keeled; aperture broad, rather trigonal, acuminate below, expanded above.

SMITH. (Carinifer.) Proc. Zool. Soc. 1875, No. 2.
Hab. California.

In *Planorbis bicarinata* and *Pl. aurita*, the spire is sunk, and not, as in this species, exserted. Otherwise, the two former much resemble the latter. I cannot see any reason for separating these shells generically. At least one very different species has an exserted spire.

Species 81. (Mus. Brit.)

PLANORBIS NEWBERRYI. *Pla. testū dextrali, altissimā, ventricosā, corneā, epidermide tenui indutā, infrā*

PLANORBIS.—PLATE X.

late et profunde infundibulata; spirâ exsertâ; anfractibus duobus, subangulatis, ultimo anfractu magno, ventricoso, supernè infernèque crenulatum carinato, medio obscurè carinato; aperturâ trigonâ, ferè ad medium ultimi anfractus depresso, supernè angulatâ, infra angulum productâ, infra medium angustatâ, acuminatâ.

NEWBERRY'S PLANORBIS. Shell dextral, very high, ventricose, horny, covered with a pale thin epidermis, with a deep and wide funnel-shaped cavity below; spire exserted; whorls two, rather angular, last whorl large, ventricose, crenulately keeled above and below, obscurely keeled in the middle; aperture trigonal, depressed almost to the middle of the last whorl, angular above, produced below the angle, narrow and acuminate below the middle.

LEE. Proc. Acad. Phil. 1854, p. 51.

Genus, *Carinifer*. Binney.

Hab. California.

Species 82. (Mus. Sowerby.)

PLANORBIS OBESUS. *Pla. testâ tumidâ, altâ, sinistrali, castaneo-subviridi, tenui, inflatâ; spirâ angustiâsculâ, angulatum concavâ; anfractu ultimo magno, supernâ angulato, infernâ rotundo; aperturâ semi-circulari, disco inferiori medio concavo, anfractibus apicalibus obtectis.*

THE FAT PLANORBIS. Shell tumid, high, sinistral, greenish chestnut, thin, inflated; spire rather narrow, angularly concave; last whorl large, angular above, rounded below; aperture semi-circular, lower disc concave in the middle, apical whorls hidden.

DUNKER. Proc. Zool. Soc. 1848, p. 41.

Hab. —?

Species 83. (Mus. Sowerby.)

PLANORBIS LENTUS. *Pla. testâ fusco-subviridi, medio anfractuum subcæruleâ, sinistrali, tumidâ, altâ; spirâ depresso; anfractibus planiusculis, prope suturam obscurè carinatis, ultimo concentricâ liratis, tenuiter spiraliter striatâ; disco inferiori excavato, anfractu apicali obtecto; aperturâ magnâ, ad anfractum ultimum contractâ, paulò elevatâ; intus fumoso-fuscâ, margine incrassato, flesuoso, albo.*

THE SLACK PLANORBIS. Shell greenish-brown, bluish in the middle of the whorls, sinistral, tumid, high; spire depressed; whorls rather flat, obscurely keeled near the suture, last concentrically ridged, finely spirally striated, lower disc hollow, apical whorl hidden; aperture large, contracted at the last whorl, a little raised, smoky-brown within, margin thickened, white.

SAY. Albers, Monograph. Planorbis, Pl. III. f. 4-6.

Hab. S. Carolina.

More tumid and deep, and less sloped at the top of the whorls than *Planorbis trivolvus*.

Species 84. (Mus. Brit.)

PLANORBIS PEREGRINUS. *Pla. testâ subcompressâ, dextrali, pallidissimè corneâ; obliquâ striatâ; spirâ angustiâsculo, medio subexcavato; ultimo anfractu late, tumido, supra medium obscurissimè angulato; disco inferiori angulatum umbilicato; aperturâ subquadrangulatâ.*

THE WANDERING PLANORBIS. Shell subcompressed, dextral, very pale horn, obliquely striated; spire rather narrow, slightly excavated in the middle; last whorl broad, tumid, very obscurely angular above the middle, lower disc angularly umbilicated; aperture slightly quadrangular.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLIV. f. 13-16.

Hab. Babia.



85.



86.



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88.



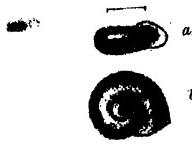
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93.



94.

PLANORBIS.

PLATE XI.

Species 85. (Mus. Sowerby.)

PLANORBIS MERGUIENSIS. *Pla. testâ fuscâ, concentricâ tenuiter striatâ, tumidâ, angustâ, allâ, sinistrâ; spirâ parvâ, infundibulatâ; anfractibus apicalibus angustis, ultimo supernè angulato, supra suturam elevato; medio et infrâ rotundato; aperturâ semilunari, supra anfractum ultimum elevatâ, intus castaneo, margine subexpanso, intus incrassato.*

THE MERGUI PLANORBIS. Shell brown, concentrically finely striated, tumid, narrow, high, sinistral; spire small, funnelled; apical whorls narrow, last angular above, raised above the suture; rounded in the middle and below; aperture semilunar, raised above the last whorl, chestnut within, margin a little expanded, thickened within.

PHILIPPI. —? Hanley, Indian Shells.

Hab. Mergui, Burmah.

Species 86. (Fig. a, b, Mus. Sowerby.)

PLANORBIS CONCAVUS. *Pla. testâ parvâ, allâ, depressâ, dextrâ, lavigatâ; spirâ planiusculâ, anfractibus quaternis, rapidâ crescentibus, supernâ infernèque rotundatis; aperturâ obliquâ rotundâ, magnâ; disco inferiori excavato.*

THE CONCAVE PLANORBIS. Shell small, white, depressed, dextral, smooth; spire rather flat, whorls four, quickly increased, rounded above and below; aperture obliquely rounded, large; lower disc hollow.

ANTHONY. —? MS. Mus. Brit.

Hab. River Ohio.

Species 87. (Fig. a, b, Mus. Sowerby.)

PLANORBIS PARVUS. *Pla. testâ depressâ, complanatâ, semipellucidâ, subviridâ fuscâ, dextrâ; spirâ latâ, subcomplanatâ; anfractibus quaternis, supernâ convexiusculis, infernâ rotundatis; ultimo latiusculo; aperturâ obliquâ subovatâ, depressâ; disco inferiori concavo.*

THE SMALL PLANORBIS. Shell depressed, flat, semi-pellucid, greenish brown, dextral; spire broad, flattened; whorls four, convex above, rounded below; last rather broad; aperture obliquely subovate, depressed; lower disc concave.

SAY. Alb. Monog. Pl. IV. f. 19, 20.

Planorbis fallax. Say (?)

Hab. New York.

Species 88. (Mus. Brit.)

PLANORBIS DEFLEXUS. *Pla. testâ depressâ, pallidâ corneâ, lavigatâ, dextrâ; spirâ angustâ, depressâ, anfractibus tribus, supernâ convexis, infernâ rotundis, rapidâ crescentibus, ultimo lato; aperturâ marginâ, validâ deflexâ.*

THE DOWN-BENT PLANORBIS. Shell depressed, pale brown, smooth, dextral; spire narrow, depressed, whorls three, convex above, rounded below, rapidly increased, last broad; aperture large, strongly deflected.

SAY. Long's Expedition, Appendix, Pl. XV. f. 8.

Planorbis virens. Adams.

Hab. River Ohio.

Species 89. (Mus. Brit.)

PLANORBIS ORIENTALIS. *Pla. testâ tenui, irregulariter undulatâ, flavidâ albidi, sinistrâ; spirâ angustâ, depressâ; anfractibus supra suturam paulâ elevatis, ultimo lato, declinâ, versus aperturam expanso; aperturâ suprâ infrâque compressâ, magnâ, obliquâ deflexâ; marginâ sinuata; disco inferiori concavo.*

THE ORIENTAL PLANORBIS. Shell thin, irregularly undulated, yellowish white, sinistral; spire narrow, depressed; whorls a little raised above the suture; last broadly sloped, expanded towards the aperture; aperture compressed above and below, large, obliquely deflected; margin sinuous; lower disc concave.

LAMARCK. Anim. s. Vert.

Hab. India.

PLANORBIS.—PLATE XI.

Species 90. (Mus. Brit.)

PLANORBIS STRAMINEUS. *Pla. testā tumidiā, depressā, dextrali, stramineā; spirā complanatā, medio subdepressā, anfractibus quaternis, superū planulatis, medio ventricosis, infū rotundis; disco inferiori excavato, anfractu apicali obtecto.*

THE STRAW-COLOURED PLANORBIS. Shell tumid, depressed, dextral, straw-coloured; spire flattened, middle rather depressed, whorls four, flattened above, ventricose in the middle, rounded below; lower disc excavated, apical whorl hidden.

DUNKER. Proc. Zool. Soc. 1848, p. 42.

Hab. —?

Species 91. (Mus. Brit.)

PLANORBIS GLABRATUS. *Pla. testā sinistrali, pulvo-cornēd, tumidiā, subdepressā, larvigatā; spirā angustā, depressā, anfractibus angustiō supra suturam elevatis; ultimo lato, supernū declivi; aperturā magnā, margine inferiori producto; disco inferiori medio excavato.*

THE POLISHED PLANORBIS. Shell sinistral, fulvous-horny, tumid, somewhat depressed, smooth; spire narrow, depressed; whorls narrowly raised above the suture; last broad, sloped above; aperture large, lower margin produced, and lower disc hollowed in the middle.

SAY. Adams' Genera of Mollusca.

Hab. Florida.

Species 92. (Fig. a, b, Mus. Sowerby.)

PLANORBIS ANTIQUENSIS. *Pla. testā latā, compressā, larvigatā, fusco-corneā, sinistrali; spirā depressā, anfractibus quinīs, compressis, rotundis, prope marginem supra suturam elevatis, rapidē crescentibns; ultimo latiūsculo; aperturā magnā, elevatā, subtrigonā; disco inferiori concavo.*

THE ANTIGUA PLANORBIS. Shell broad, compressed, smooth, brown-horny, sinistral; spire depressed, whorls five, compressed, rounded, raised near

the margin above the suture, quickly increased; last broad; aperture large, raised, rather trigonal; lower disc concave.

GUILDFORD. —?

Hab. Antigua, West Indies.

Species 93. (Fig. a, b, Mus. Hanley.)

PLANORBIS CONVEXIDSCULUS. *Pla. testā subcomplanatā, albā, tumidiūsculā, larvigatā, dextrali; anfractibus quaternis, rapidē crescentibns; ultimo lato, versus aperturam expanso; aperturā obliquā subovatā, supra ultimum anfractum elevato; disco inferiori excavato.*

THE RATHER CONVEX PLANORBIS. Shell rather flattened, white, rather tumid, smooth, dextral; whorls four, rapidly increased; last broad, expanded towards the aperture; aperture obliquely subovate, raised above the last whorl; lower disc excavated.

HUTTON. Journ. Asiat. Soc. Beng. 1840, Vol. XVIII. p. 652.

Hab. Afghanistan.

Species 94. (Fig. a, b, Mus. Sowerby.)

PLANORBIS EXACUTUS. *Pla. testā depressā, fusco-corneā, dextrali, supernē convexā, infernē planiūsculā, paulū infra medium acutē carinatā; aperturā compressā, lateraliter obliquā elongatā, margine externo acuminatā; disco inferiori subcomplanatā, medio umbilicato.*

THE SHARP PLANORBIS. Shell depressed, brown-horny, dextral, convex above, rather flat below, sharply keeled a little below the middle; aperture compressed, laterally obliquely elongated, outer margin acuminate; lower disc rather flat, umbilicated in the middle.

SAY. Journ. Amer. Journ. Soc. Phil.

Planorbis Indicus. Benson.

Hab. United States.



96.



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103.



104.

PLANORBIS.

PLATE XII.

Species 95. (Fig. a, b, Mus. Brit.)

PLANORBIS PANAMENSIS. *Pla. testā parvā, albida, compressā, semipellucidā, dextrali; spirā parvā; anfractibus tribus, depresso-convexis, distinctis, rapidè crescentibus; ultimo lato; disco inferiori concavo, anfractibus rotundis; aperturā subovatā.*

THE PANAMA PLANORBIS. Shell small, whitish, compressed, semipellucid, dextral; spire small; whorls three, depressed-convex, distinct, quickly increased; last broad; lower disc concave, anfractibus rotundis, aperture subovate.

D'ORBIGNY. Proc. Zool. Soc. 1848, p. 41.

Hab. Panama.

Resembling *Planorbis albus*, but with the whorls more rounded and distinct.

Species 96. (Mus. —? Copied.)

PLANORBIS HELIOCUS. *Pla. testā latā, complanatā, dextrali, fusco-ferruginea, striatā, paulo arcuata; spirā planulatā, anfractibus quinīs, rotundis; aperturā obliquā ovato, subrotundā; disco inferiori excavata.*

THE NAIL-SHAPED PLANORBIS. Shell broad, flat, dextral, rusty-brown, striated, a little arched; spire flattened, whorls five, round; aperture obliquely rounded-oval; lower disc hollow.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLV. fig. 9-12.

Hab. South America.

Species 97. (Mus. —? Copied.)

PLANORBIS PAROPSEIDES. *Pla. testā rectā, parvā, latiusculā, subcomplanatā, dextrali, fuso, ferruginea, obliquè striatā; spirā complanatā, anfractibus quinīs, supernè subcomplanatis, angustis, infra medium tumidiūsculis, aperturā depressā, infrā paulo inflatā; disco inferiori latè umbilicato.*

THE 'DISH-LIKE' PLANORBIS. Shell straight, small, rather broad, flattish, dextral, rusty-brown, obliquely striated; spire flattened; whorls five, rather flattened above, narrow, rather tumid below the middle, aperture depressed, a little inflated below; lower disc broadly umbilicated.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLV. f. 5-8.
Hab. South America.

Species 98. (Fig. a, b, Mus. Brit.)

PLANORBIS HELIOPHILUS. *Pla. testā planatā, subdepressā, pallidè fulcā, sinistrali, levigatā; spirā infundibulatā; anfractibus quinīs, tumidiūsculis, supra suturam angulatum elevatā, infrā rotundatā; ultimo superū subangustatā, tūm declivī, versus aperturam expanso; aperturā supernè subacuminatā, infrā latā.*

THE SUN-LOVING PLANORBIS. Shell flattened, subdepressed, pale fulvous, sinistral, smooth; spire funnelled; whorls five, rather tumid, angularly raised above the suture, rounded below; last somewhat angular above, then sloped, expanded towards the aperture; aperture subacuminate above, broad below.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLV. f. 13-16.

Hab. South America.

Species 99. (Fig. a, b, Mus. Brit.)

PLANORBIS ANATINUS. *Pla. testā minutā, tumidā, cornatā, depressā, subglobosā; spirā parvā, subexcavatā; anfractibus tribus, altis, medio convexis; aperturā angustā, semilunari; disco inferiori angustè umbilicato.*

THE DUCK'S PLANORBIS. Shell minute, tumid, horny, depressed, subglobose; spire small, slightly excavated; whorls three, high, convex in the middle; aperture narrow, semilunar, lower disc narrowly umbilicated.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLV. fig. 17-20.

Hab. South Africa.

Species 100. (Fig. a, b, Mus. Brit.)

PLANORBIS ARAKANENSIS. *Pla. pallidè cornatā, translucidā, tumidā, dextrali; spirā angustā; anfractu ultimo tumido, supernè subangustato, infra medium ventricoso; disco inferiori concavo, anfractu apicali obtecto.*

THE ARAKAN PLANORBIS. Shell pale horn, translucent, tumid, dextral; spire narrow; last whorl tumid, a little angular above, ventricose below the middle; lower disc concave, apical whorl hidden.

Gould. —? MS. Brit. Mus.

Hab. Trinidad.

PLANORBIS.—PLATE XII.

Species 101. (Fig. a, b, Mus. Brit.)

PLANORBIS ISABEL. *Pla. testā parvā, tumidā, alta, dextrali, ferruginea, levigata; spirā parvā, sub-complanata; anfractibus tribus, angustisculis, superne subangulatis, tām declivibus; ultimo magno, prope aperturam expanso; disco inferiori umbilicato; aperturā angustā, semilunari, margine superiori sinuatim producta.*

THE ISABEL PLANORBIS. Shell small, tumid, high, dextral, ferruginous, smooth; spire small, rather flat; whorls three, rather narrow, slightly angular above, then sloped; last large, expanded near the aperture; lower disc umbilicated; aperture narrow, semilunar, upper margin sinuously produced.

MORELET. —? Adams. Genera of Mollusca.

Hab. —?

Species 102. (Fig. a, b, Mus. Brit.)

PLANORBIS ACIES. *Pla. testā parvā, ultrinque complanatā, albā, levigatā; anfractibus quinque, subrotundis, superne angustisculis, inferne magis rotundis; aperturā obliquā ovatā, supra suturam elevatā.*

THE SPEAR PLANORBIS. Shell small, flattened on each side, white, smooth; whorls five, rather rounded, rather narrow above, more rounded below; aperture obliquely ovate, raised above the suture.

PORRO. Meg. Villa. Cat. 1844, p. 8.

Hab. Milan.

Species 103. (Mus. Brit.)

PLANORBIS LARGILLIERI. *Pla. testā truncato-conicā, castaneā, altiusculā, nitenti, infra medium sub-planulatū, suprā declivo; spirā angustatā, anfractibus tribus, angustissimis, ultimo magno, tumido; aperturā subtrigonā, margine superiori flexuositate depressā; disco inferiori angustè umbilicato.*

LARGILLIERI'S PLANORBIS. Shell truncated-conical, chestnut, rather raised, shining, rather flattened below the middle, sloped above; spire narrow; whorls three, very narrow, last large, tumid; aperture rather trigonal; upper margin flexuously depressed; lower disc with a narrow umbilicus.

— MS.

Hab. —?

Species 104. (Fig. a, b, Mus. Sowerby.)

PLANORBIS VERMICULARIS. *Pla. testā olivaceo-viridi, politā, parvā, dextrali; spirā planisculā, anfractibus quinque, rotundis, angustatis, declivibus, infra medium subcentricosis, subangulatis; disco inferiori concavo; aperturā subtrigonā.*

THE VERMICULAR PLANORBIS. Shell olive-green, polished, small, dextral; spire rather flattened; whorls five, rounded, narrow, sloped, rather ventricose below the middle, slightly angular; lower disc concave; aperture subtriangular.

SOWERBY.

Hab. —?

Shell with a broader disc and more whorls than *Planorbis parvus*, which, from its colour and general form, it resembles.





106.



105.



107.



108.



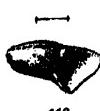
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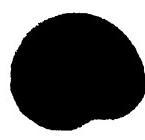
111a.



112.



113.



111b.

PLANORBIS.

PLATE XIII.

Species 105. (Fig. a, b, Mus. Brit.)

PLANORBIS PERFORATUS. *Pla. testâ parvâ, tumidâ, pallidè cornicâ, truncato-subconicâ, spirâ angustissimâ, anfractu ultimo tumido, alto, supernè declivi, infra medium ventricoso; disco inferiori planato, medio angustissimè et profundè umbilicato.*

THE PERFORATED PLANORBIS. Shell small, tumid, pale horn, truncated-subconical, spire very narrow, last whorl tumid, raised, sloped above, ventricose below the middle; lower disc flattened, narrowly and deeply umbilicated in the middle.

GOLD —? MS. Mus. Brit.

Hab. United States.

Species 106. (Mus. Brit.)

PLANORBIS CULTRATUS. *Pla. testâ pellucidâ, hyalinâ, albâ, truncato-conicâ, spirâ parvâ, anfractibus tribus, depresso; anfractu ultimo declivi, infra planato, margine acuminato; aperturâ obliquè subtrigonâ, angustâ; margine externo infra acutè angulato; disco inferiori plano, medio angustè umbilicato.*

THE SHARPENED PLANORBIS. Shell pellucid, hyaline, white, truncato-conical, spire small, whorls three, sunk; last whorl sloped, flattened below, margin acuminated; aperture obliquely subtrigonal, narrow; outer margin sharply angular below; lower disc umbilicated.

D'ORBIGNY —? MS. Mus. Brit.

Hab. St. Vincent.

Species 107. (Mus. Brit. —? Copied.)

PLANORBIS MONTANUS. *Pla. testâ depressâ, pallidè fulvâ, sinistrali; spirâ infundibulatâ; anfractu ultimo tumido, suprâ infrâque angulato; disco inferiori concavo; aperturâ subquadrilaterali, magnâ, suprâ anfractum ultimum elevatâ.*

THE MOUNTAIN PLANORBIS. Shell depressed, pale fulvous, sinistral; spire funnelled; last whorl tumid, angular above and below; lower disc concave; aperture rather quadrilateral, large, raised above the last whorl.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLIV. f. 5, 8.
Hab. South America.

Species 108. (Mus. Brit.)

PLANORBIS AMMON. *Pla. testâ sinistrali, maximâ, constrictissimâ, altâ, pallidè subcirculari-fulvâ, concentricè rugatâ; spirâ profundè infundibulatâ; anfractibus quaternis, supra suturam rotundè elevatis; ultimo lato, rapidè crescenti, ad aperturam expanso; disco inferiori profundè excavato; apertura magna, altissimâ, subovata, supernè supra suturam elevatâ, acuminata; infra anfractum ultimum rotundè producto, intus subcastaneo, margine interno incrassato.*

THE AMMON PLANORBIS. Shell sinistral, very large, very ventricose, high, pale greenish-fawn, concentrically wrinkled; spire deeply funnelled; whorls four, roundly elevated above the suture; last wide, rapidly enlarged, expanded at the aperture; lower disc deeply hollow; aperture large, very high, subovate, raised above over the suture, acuminated; roundly produced below the last whorl, rather chestnut within, lower margin thickened.

GOLD. United States' Expedition.

Hab. America.

The deep specimen of *Pla. corpulentus*, figured in the first plate, resembles this species, but is not nearly so high nor so ventricose, and the upper part of the whorls are angular instead of being round.

Species 109. (Mus. Brit.)

PLANORBIS ELEVATUS. *Pla. testâ parvâ, albâ, dextrali, levigatâ, altiusculâ; spirâ planulatâ, anfractibus concaviusculis, ultimo subquadrato, supernè declivi, suprâ infrâque angulato; aperturâ infra angulum ultimi anfractus depresso, magâ, suprâ infrâque angulatâ, medio convexâ; disco inferiori angulatum concavo.*

THE ELEVATED PLANORBIS. Shell small, white, dextral, smooth, rather high; spire flat, whorls a little convex, last rather square, sloped above, angular above and below; aperture depressed below the angle of the last whorl, convex in the middle; lower disc angularly concave.

SAY. Journ. Bost. Soc. Nat. Hist. 3, Pl. III. f. 15.

Hab. Vermont.

The above name is probably given to the shell because the last whorl against the mouth is raised considerably above the aperture.

PLANORBIS.—PLATE XIII.

Species 110. (Mus. Brit.)

PLANORBIS LENTICULARIS. *Pla. testâ pareâ, subcompresso, fuscâ, laevi, dextrali; spirâ planiusculâ, anfractibus tribus, convexiusculis, ultimo superne angulato, carinato, infrâ angustatâ; disco inferiori profundè umbilicato; aperturâ subtrigonâ, ad angulum externum subaruminatâ.*

THE LENTICULAR PLANORBIS. Shell small, rather flat, brown, smooth, dextral; spire rather flattened, whorls three, rather convex, last angular above, keeled, narrow below; lower disc deeply umblicated; aperture subtrigonal, acuminate at the outer angle.

HARTMAN —? Adams, Genera of Mollusca.

Planorbis opercularis. Gould.

Hab. Sacramento River.

Species 111. (Fig. a, b, Mus. Brit.)

PLANORBIS GUADALOUPENSIS. *Pla. testâ sinistrali, compressâ, latâ, fulvâ, politâ; spirâ concavâ, anfractibus sexis, convexiusculis; ultimo anfractu magno, supra suturam elevatâ, tum declivi, infrâ latiusculâ; disco inferiori convexo; aperturâ subtrigonâ, margine inferiori ad anfractum ultimum producto.*

THE GUADALOUE PLANORBIS. Shell sinistral, compressed, broad, fulvous, polished; spire concave, whorls six, convex; last whorl large, raised above the suture, then sloped, rather broad below; lower disc convex; aperture rather trigonal, lower margin produced on the body whorl.

SOWERBY. Genera of Recent and Fossil Shells,
Hab. Guadalupe.

Species 112. (Mus. Brit.)

PLANORBIS DILATATUS. *Pla. testâ albâ, dextrali, superne angulatâ, infra angulum angustatâ, disco inferiori profundè excavato, aperturâ murinâ, trigonâ, superne complanatâ, infrâ acuminatâ.*

THE DILATED PLANORBIS. Shell white, dextral, angular above, narrow below the angle, lower disc deeply excavated, aperture very large, trigonal, flattened above; acuminate below.

PFEIFFER. Moll. de l'Allemagne, Vol. II. p. 165.

Hab. Massachusetts.

The last whorl suddenly expands towards the mouth, which is the largest of the whole genus in proportion to the body whorl.

Species 113. (Mus. Brit.)

PLANORBIS SWINHOEI. *Pla. testâ subdepressâ, semipelucidâ, fuscâ, subconico-truncatâ, superne planulatâ, medio subangulatum productâ, infrâ planulatâ; disco inferiori angustâ umbilicato; aperturi subtrigonâ, margine externo producto, margine superiori flexuosim depresso.*

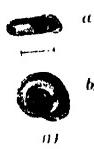
SWINHOE'S PLANORBIS. Shell subdepressed, semipellucid, brown, rather angularly truncated, flattened above, somewhat angularly produced in the middle, flattened below, lower disc narrowly umbilicated; aperture rather trigonal, outer margin produced; upper margin flexuously depressed.

H. ADAMS. Proc. Zool. Soc.

Hab. Isl. Formosa.



115a.



115b.



115c.



116a.



116b.



117b.



118a.



118b.



119.



120b.



122b.



123b.



124b.

PLANORBIS.

PLATE XIV.

Species 114. (Fig. a, b, Mus. Brit.)

PLANORBIS DEFORMIS. *Pla. testā parrā, cinereo-ferruginea, complanatā, dextrali; spirā planulatā; anfractibus quaternis, tumidis, subrotundis; ultimo versus aperturam irregulariter tumido, ad marginem expanso; aperturā arcuatim-conicā, anfractum ultimum suprā infrāque superante; disco inferiori ad marginem planulato, medio concavo.*

THE DEFORMED PLANORBIS. Shell small, rusty-grey, flattened, dextral; spire flattened, whorls four, tumid, rather rounded, last irregularly swelled, expanded at the margin; aperture curved conical, extending above and below the last whorl; lower disc flattened at the margin, concave in the middle.

LAMARCK. Anim. sans Vert.

Hab. —?

The last whorl becomes tumid a little way before the expansion of the aperture.

Species 115. (Fig. a, b, Mus. Brit.)

PLANORBIS ALEXANDRINUS. *Pla. testā dextrali, sub-compressā, fulvā, anfractibus quaternis, ultimo latiūsculo, medio tumido, infrā subangustato; aperturā subtrigonā, dentibus quinis laminatis longè internis armatā; margine intūs incrassato; disco inferiori latè umbilicato.*

THE ALEXANDRINE PLANORBIS. Shell dextral, rather compressed, fulvous, whorls four, last rather wide, middle tumid, rather narrow below; aperture subtrigonal, armed far back internally with five teeth; margin thickened within; lower disc broadly umbilicated.

EHRENBURG. Roth. Moll. Sp. Pl. II. f. 8.

Genus, *Planorbula*. Haldeman.

Hab. Egypt.

This species belongs to the section which has been separated under the generic name of *Planorbula*. Far back in the throat may be seen laminated plates jutting out so as to contract the opening.

Species 116. (Mus. Brit.)

PLANORBIS DENTATUS. *Pla. testā dextrali, compressā, fulvā, spirā planulatā; anfractibus convexis, supernè lati, infre medium angustatis, disco superiori lato, disco inferiori angustato, profundè et angustè excavato; aperturā magnā, infre anfractum ultimum productā, longè intūs laminatum tridentatā, margine intūs incrassato.*

THE TOOTHED PLANORBIS. Shell dextral, compressed, fulvous, spire rather flat; whorls convex, broad above, narrow below the middle, upper disc broad, lower disc narrow, deeply and narrowly excavated; aperture large, produced below the last whorl, with three laminar teeth far within, margin thickened within.

DUNKER. (*Planorbula*) —? Adams' Gen. of Moll.

Hab. —?

Species 117. (Fig. a, b, Mus. Brit.)

PLANORBIS ALBICANS. *Pla. testā albidi, solidiūsculo, dextrali, spirā planulatā; anfractibus convexiūsculis, quaternis, moderate crescentibus, ultimo ad aperturam valdè deflexo, disco inferiori angulatim excavato; aperturā usque ad marginem inferiorum ultimi anfractus depresso.*

THE WHITISH PLANORBIS. Shell whitish, rather solid, dextral, spire rather flattened; whorls four, rather convex, moderately increased, last much bent down at the aperture, lower disc angularly convex; aperture bent down to the lower margin of the last whorl.

PFEIFFER.

Hab. Lima.

Species 118. (Fig. a, b, Mus. Brit.)

PLANORBIS COMPRESSUS. *Pla. testā compressā, latiūscula, pallidā, laevigatā, dextrali, supernè angustatā, infrā latā, subcarinatā, spirā depressi; aperturā obliquè pyramidatā, supernè angustatā, margine inferiori producto.*

PLANORBIS.—PLATE XIV.

THE COMPRESSED PLANORBIS. Shell compressed, rather broad, pale, smooth, dextral, narrowed above, broad below, somewhat keeled, spire depressed; aperture obliquely pyramidal, angular above, lower margin produced.

HUTTON. Journ. Asi. Soc. Beng. Vol. III. p. 91.

Planorbis Toulouensis. Mousson.

Hab. River Ganges.

Species 119. (Mus. Brit.)

PLANORBIS DENTIFERUS. *Pla. testū angustā, tumidā, albida, spirā planiusculā; anfractibus quaternis, altis, supernè ventricosis, infernè subangustatis, disco inferiori subangustè excavato; aperturā magnā, auriformi, supra infaque ultimum anfractum productā, longè intus quinquefariam laminatim dentatā.*

THE TOOTH-BEARING PLANORBIS. Shell narrow, tumid, whitish, spire rather flat; whorls four, high, ventricose above, slightly narrowed below, lower disc rather narrowly excavated; aperture large, ear-shaped, produced above and below the last whorl, with five laminar teeth far within.

ADAMS, C. B. Contributions to Conchology.

Hab. Jamaica.

Species 120. (Fig. a, b, Mus. Hanley.)

PLANORBIS HYPTIOCYCLOS. *Pla. testū tumidā, albida, dextrali, spirā depressā; anfractibus tribus, latiusculis, supra suturam tumidè elevatis; aperturā supra suturam elevatā, tūm declivī, margine inferiori obliquā, disco inferiori excavatā.*

THE REFLECTED PLANORBIS. Shell tumid, whitish, dextral, spire depressed; whorls three, rather broad, raised in a swelling above the suture; aperture raised above the suture, then sloped, lower margin oblique, lower disc excavated.

BENSON. Ann. Nat. Hist. 1863, Ser. III. Vol. II. p. 89.

Hab. Ceylon.

Species 121. (Fig. a, b, Mus. Hanley.)

PLANORBIS ROTULA. *Pla. testū parvā, pallidē fulvā, tumidū, cūlā, levigatā, dextrali, spirā depressā;*

. anfractibus quinīs, convexis, supra suturam paulo elevatis, disco inferiori late concavo, anfractibus rotundis; aperturā obliquè ovatā.

THE LITTLE WHEEL PLANORBIS. Shell small, pale fulvous, rather tumid, smooth, dextral, spire depressed; whorls five, convex, a little raised above the suture, lower disc broadly concave, whorls round; aperture obliquely ovate.

BENSON. Ann. Nat. Hist. 1863, Series II. Vol. V. p. 351.

Hab. Moradabad.

Species 122. (Fig. a, b, Mus. Brit.)

PLANORBIS CORINNA. *Pla. testū parvā, albida, loricatā, dextrali; anfractibus quaternis, rotundis, distinctis; disco superiori subdepresso, disco inferiori concavo; aperturi transversè subovata.*

THE CORINNA PLANORBIS. Shell small, whitish, smooth, dextral; whorls four, rounded, distinct; upper disc rather depressed, lower disc concave; aperture transversely subovate.

GRAY. Proc. Zool. Soc. 1850.

Hab. New Zealand.

Species 123. (Fig. a, b, Mus. Brit.)

PLANORBIS INTERTEXTUS. *Pla. testū angustā, altā, sinistrali, tenuissimè striatā, castaneā, distanter concentricè albo-fasciatā et nigro-lineatā, spirā medio angustè infundibulatā; anfractu ultimo supra suturam angulatim elevato, disco inferiori lato, angulato, excavato; aperturā altā, subtriangularē, intus griseā.*

THE TEXTILE PLANORBIS. Shell narrow, high, sinistral, very finely striated, chestnut, distantly concentrically white-banded and black-lined, spire narrowly funnelled in the middle; last whorl raised above the suture in an angle, lower disc broad, angular, hollow; aperture high, subtriangular, grey within.

SHUTTLEWORTH. —? MS. Brit. Mus.

Hab. Florida.

Resembling *Planorbis biangulatus*, excepting in the white bands bordered by dark lines appearing on the surface of the outer whorl.

PLANORBIS.

Plate.	Species.			
Acies, <i>Porro</i>	XII. 102	costulatus, <i>Krauss</i>	IV. 26	
affinis, <i>Adams</i>	IV. 28	culturatus, <i>D'Orbigny</i>	XIII. 106	
albicans, <i>Pfeiffer</i>	XIV. 117	deelvis, <i>Sowerby</i>	IV. 29	
albns, <i>Müller</i>	III. 17	deflexus, <i>Say</i>	XI. 88	
<i>Aldomani</i> , C. B. Ad. Not identified.		deformis, <i>Lamarcq</i>	XIV. 114	
<i>Alexandrinus</i> , <i>Ehrenberg</i>	XIV. 115	dentatus, <i>Dunker</i>	XIV. 116	
<i>ammonaeus</i> , Beck. Not identified.		dentiferus, <i>Adams</i>	XIV. 119	
<i>Ammon</i> , <i>Gould</i>	XIII. 108	depressissimus, <i>Moricand</i> :	VIII. 66	
<i>anatinus</i> , <i>D'Orbigny</i>	XII. 99	dilatatus, <i>Pfeiffer</i>	XIII. 112	
<i>Andecolus</i> , <i>D'Orbigny</i>	VI. 50	<i>dubius</i> , Hartman. Unidentified.		
<i>anisus</i> , Beck. Not identified.		<i>eburneus</i> , <i>Gray</i>	V. 38	
<i>Antiguensis</i> , <i>Guilding</i> (?)	XI. 92	<i>elegantulus</i> , <i>Dohrn</i>	IX. 69	
<i>antrorsus</i> , Conrad. Not identified.		<i>elevatus</i> , <i>Say</i>	XIII. 109	
<i>Arakanensis</i> , <i>Gould</i>	XII. 100	<i>eugonolus</i> , Conrad. Not identified.		
<i>Arcticus</i> , <i>Beck</i>	VIII. 64	<i>exacutus</i> , <i>Say</i>	XI. 94	
<i>armigerus</i> , <i>Say</i>	III. 18	<i>exustus</i> , <i>Deshayes</i>	IV. 31	
<i>auritus</i> , <i>Sowerby</i> (<i>Redfieldi</i> , by error)	III. 20	<i>ferruginens</i> , <i>Spix</i>	IX. 73	
<i>Bahiensis</i> , <i>Dunker</i> . Not identified.		<i>Folkeii</i> , <i>Dunker</i> . Not identified.		
<i>Beckianus</i> , <i>Dunker</i>	VII. 55	<i>fuscus</i> , <i>Dunker</i>	IX. 74	
<i>Bengalensis</i> , <i>Dunker</i>	IV. 27	<i>Gilberti</i> , <i>Dunker</i>	V. 37	
<i>biangulatus</i> , <i>Sowerby</i>	IV. 25	<i>glaber</i> , <i>Jeffreys</i> (?)	II. 10	
<i>bicarinatus</i> , <i>Say</i>	I. 7	<i>glabratus</i> , <i>Say</i>	XI. 91	
<i>brunneus</i> , <i>Gray</i>	V. 40	<i>gracilentus</i> , <i>Gould</i>	VIII. 65	
<i>calathus</i> , <i>Benson</i>	IV. 30	<i>Guadaloupensis</i> , <i>Sowerby</i>	XIII. 111	
<i>campanulatus</i> , <i>Say</i>	II. 11	<i>heliophilus</i> , <i>D'Orbigny</i>	XII. 98	
<i>Cantori</i> , <i>Benson</i>	X. 79	<i>heliocinus</i> , <i>D'Orbigny</i>	XII. 96	
<i>carinatus</i> , <i>Müller</i>	II. 12	<i>hemispharata</i> , <i>Benson</i> . Not identified.		
<i>catillus</i> , <i>Anton</i> (?)	VI. 45	<i>Hindsianus</i> , <i>Dunker</i>	VI. 44	
<i>Chilensis</i> , <i>Anton</i>	VII. 57	<i>humilis</i> , C. B. Adams. Not identified.		
<i>Chinensis</i> , <i>Dunker</i> . Not identified.		<i>hypiocyclos</i> , <i>Benson</i>	XIV. 120	
<i>circumlineatus</i> , <i>Shuttleworth</i>	VI. 48	<i>Indicus</i> , <i>Benson</i>	XI. 94	
<i>coaretatus</i> , <i>Sowerby</i>	III. 21	<i>inflatus</i> , <i>Dunker</i>	VI. 47	
<i>conosus</i> , <i>Benson</i>	X. 78	<i>intermedius</i> , Charp. Not identified.		
<i>commutatus</i> , <i>Dunker</i>	VIII. 63	<i>intertextus</i> , <i>Shuttleworth</i>	XIV. 123	
<i>complanatus</i> , <i>Linnæus</i>	I. 5	<i>Isabel</i> , <i>Morelet</i>	XII. 101	
<i>compressus</i> , <i>Hutton</i>	XIV. 118	<i>kermatoïdes</i> , <i>D'Orbigny</i>	VII. 52	
<i>concavus</i> , <i>Anthony</i>	XI. 86	<i>laeustris</i> , <i>Lightfoot</i>	II. 16	
<i>contortus</i> , <i>Müller</i>	II. 9	<i>Lanieranus</i> , <i>D'Orbigny</i>	VII. 58	
<i>convexusculus</i> , <i>Hutton</i>	XI. 93	<i>Largillieri</i> —?	XII. 103	
<i>coretus</i> , <i>Adanson</i> . Not identified.		<i>lenticularis</i> , <i>Hartman</i> (?)	XIII. 110	
<i>coriuna</i> , <i>Gray</i>	XIV. 122	<i>lentus</i> , <i>Say</i>	X. 83	
<i>corneus</i> , <i>Linnæus</i>	I. 1	<i>leucostoma</i> = <i>spirorbis</i>	II. 14	
<i>Coromandelicus</i> , <i>Küster</i>	IV. 34	<i>limosa</i> , <i>Dunker</i> . Unidentified.		
<i>corpulentus</i> , <i>Say</i>	IX. 4	<i>lucidus</i> , <i>Philippi</i> (?)	II. 53	

PLANORBIS.

	Plate.	Species.		Plate.	Spec.
<i>lugubris</i> , <i>Wagner</i>	III.	24	<i>Ponsonbyi</i> , <i>Smith</i>	X.	80
<i>Macnabianus</i> , <i>Adams</i>	V.	41	<i>Redfieldi</i> , <i>C. B. Adams</i> (<i>succineus</i> , Sowb. by error)	III.	
<i>magnificus</i> , Conrad. Not identified.			<i>regularis</i> , <i>Lea</i> . Unidentified.		
<i>marmoratus</i> , Michaud. Unidentified.			<i>Rossmäsleri</i> , <i>Schmidt</i>	VII.	59
<i>Merguiensis</i> , <i>Philippi</i>	XI.	85	<i>rotula</i> , <i>Benson</i>	XIV.	121
<i>modicus</i> , <i>Benson</i>	IX.	76	<i>Rupelli</i> , <i>Dunker</i> . Unidentified.		
<i>montanus</i> , <i>D'Orbigny</i>	XIII.	107	<i>Salleanus</i> , <i>Dunker</i>	VI.	46
<i>Moricandi</i> , <i>Beck</i>	IX.	71	<i>septemgyratus</i> , <i>Zeigler</i>	VII.	54
<i>multivalvis</i> , <i>Case</i>	IX.	72	<i>sericeus</i> , <i>Dunker</i>	VIII.	68
<i>nanus</i> , <i>Benson</i>	IX.	75	<i>Sibiricus</i> , <i>Dunker</i>	V.	35
<i>Natalis</i> , <i>Krauss</i>	IV.	32	<i>sindicus</i> , <i>Benson</i> . Omitted.		
<i>nautilinus</i> , <i>Linnæus</i>	II.	8	<i>Spenceri</i> , <i>Allen</i>	VIII.	60
<i>Newberryi</i> , <i>Lea</i>	X.	81	<i>spirorbis</i> , <i>Müller</i>	II.	14
<i>nitidulus</i> , <i>Dunker</i>	VIII.	61	<i>stagnicola</i> , <i>Morelet</i>	V.	43
<i>nitidus</i> , <i>Müller</i>	II.	15	<i>Stelzneri</i> , <i>Dohrn</i>	V.	36
<i>obesus</i> , <i>Dunker</i>	X.	82	<i>stramineus</i> , <i>Dunker</i>	XI.	90
<i>obtusus</i> , <i>Deshayes</i>	V.	39	<i>subangulatus</i> , <i>Philippi</i>	VIII.	67
<i>olivaceus</i> , <i>Spix</i>	I.	6	<i>suberenatus</i> , <i>Carpenter</i> . Omitted.		
<i>opercularis</i> , <i>Gould</i>	XIII.	110	<i>succineus</i> , Sowb., see <i>Redfieldi</i>	III.	19
<i>orbicularis</i> , <i>Morelet</i>	III.	22	<i>Swinhoei</i> , <i>H. Adams</i>	XIII.	113
<i>orientalis</i> , <i>Lamarck</i>	XI.	89	<i>tenuatus</i> , <i>Morelet</i>	V.	42
<i>pallidus</i> , <i>C. B. Adams</i>	VII.	56	<i>tonagophilus</i> , <i>D'Orbigny</i>	VI.	51
<i>Panamensis</i> , <i>D'Orbigny</i>	XII.	95	<i>terversanus</i> , <i>D'Orbigny</i>	VI.	49
<i>parallelus</i> , <i>Say</i> . Unidentified.			<i>Tondanensis</i> , <i>Mousson</i>	XIV.	118
<i>paropscides</i> , <i>D'Orbigny</i>	XII.	97	<i>trivolvis</i> , <i>Say</i>	I.	2
<i>parvus</i> , <i>Say</i>	XI.	87	<i>trochooides</i> , <i>Benson</i>	IX.	70
<i>peregrinus</i> , <i>D'Orbigny</i>	X.	84	<i>umbilicatus</i> , <i>Benson</i>	X.	77
<i>perforatus</i> , <i>Gould</i> (?)	XIII.	105	<i>ungulatus</i> , <i>Chitty</i>	VIII.	62
<i>Peruvianus</i> , <i>Broderip</i>	I.	3	<i>vernicularis</i> , <i>Sowerby</i>	XII.	104
<i>Pfeifferi</i> , <i>Krauss</i>	IV.	33	<i>vortex</i> , <i>Linnæus</i>	II.	13
<i>Philippinarum</i> , <i>Dunker</i>	III.	23			

MONOGRAPH

OF THE GENUS

P L A N A X I S.

By Thy kind power and influencing care
The varions creatures live, and move, and are. —*Milton.*



1



2



3



4a



5



6



4b



7a



4c



7b

PLANAXIS.

PLATE I.

Genus PLANAXIS. Lamarck.

Testa ovato-conica, solida, plerumque spiraliiter sulcata; spira plerumque brevis, conica; apertura subtriangularis, intus dentato-lirata, antice leviter canalifera, emarginata; columella subarcuata, planata, ad terminum truncata; operculum ovato-oblongum, unispirale, nucleo ferè terminali.

Shell ovately conical, solid, generally spirally grooved; spire for the most part short, conical; aperture rather trigonal, tooth-ridged within, with a slight canal and notch in front; columella slightly arched, flattened, truncated at the end; operculum ovate-oblong, with one-whorled spire, nucleus nearly terminal.

Few genera so restricted in numbers are so widely spread in their habitats. We have identified 39 species, of which the greater number are tenants of Australian, South Sea Island, and Philippine groups. The Red Sea and Persian Gulf, the Mauritius and West Indies contribute their portion; the Chinese and Indian Seas have several, but there are no European species. The animals are marine, but partly amphibious, and spend a large portion of their existence above water. The slight canal and notch at the front of the aperture, and the flattened columella terminating in a notch, render this genus characteristic and easily distinguishable.

Species 1. (Mus. Hanley.)

PLANAXIS ENCAUSTICUS. *Pla. testa crassâ, brevi, albida, cernulâ, fuscoque nebulatâ et fasciatâ, levigatâ; anfractibus senis ad septenos, ultimo ventricoso, infra medium rotundâ, ad suturam angustâ angulato, nigro-punctato, spiraliiter, tenuiter, distanter, infra angulum validè sulcato; apertura castanea, columellâ brevi, latè truncatâ, prope suturam validè callosa; labro intus distanter et validè dentato-lirato.*

THE ENAMELLED PLANAXIS. Shell thick, short, whitish, clouded, and banded with blue and brown, smooth; whorls six to seven, the last ventricose, roundly angular below the middle, and narrowly at the suture; black-spotted, spirally, finely, distantly grooved, strongly below the angle; aperture chestnut, columella short, broadly truncated, with a strong callus near the suture,

outer lip distantly and strongly tooth-ribbed within.

SMITH. Proc. Zool. Soc. 1872, p. 38.

Hab. Arracan.

In the specimens from which the description was taken (no others being known) the upper whorls are much corroded, and the body whorl being smooth, with spiral grooves almost obsolete above, gives the remaining surface a sort of enamelled appearance.

Species 2. (Mus. Brit.)

PLANAXIS CASTANEUS. *Pla. testa subgrisea, levigata, castanea, spiraliiter tenuiter striata, longitudinale oblique sublirata; spira elevata, acuminata, anfractibus senis convexis velatis; ultima bulbiformis, apertura parva, labro intus 7-denticulato, margini levata, columellâ subarcuata, infra subexpansâ.*

THE CHESTNUT PLANAXIS. Shell somewhat pyriform, smooth, chestnut, spirally finely striated, longitudinally obliquely slightly ridged; spire raised, acuminate, whorls six, rather convex; end bulb-shaped, aperture small, outer lip seven-toothed within, margin thin, columella slightly arched, rather expanded below.

SMITH. Proc. Zool. Soc. 1872, p. 41.

Hab. —?

Species 3. (Mus. Brit.)

PLANAXIS CRASSISPIRA. *Pla. testa oblongâ, subdistanter spiraliiter sulcatâ, grisea, nigro-punctatâ; spira elevata, crassa, subcylindrica, obtusa; anfractu ultimo obtuse angulari, apertura parva, subtrigonâ, columellâ alba, infra late productâ, labro intus validè dentato.*

THE THICK-SPIRED PLANAXIS. Shell oblong, rather distantly spirally grooved, grey, spotted with black; spire elevated, thick, subcylindrical, obtuse; last whorl obtusely angular; aperture small, subtrigonous, columella white, broadly produced below; outer lip strongly toothed within.

SMITH. Proc. Zool. Soc. 1872, p. 39.

Hab. —?

Differing from *Planaxis sulcatus* in the narrow, straight-sided form.

PLANAXIS.—PLATE I.

Species 4. (Fig. *a, b, c*, Mus. Hanley.)

PLANAXIS SULCATUS. *Pla. testā trochiformi, crassā, profundè sulcatā, fusco-rubescēti, nigro alboque maculatā, costis prominentibus; spirā conicā, anfractibus quinīs, ultimo magno, infra medium obscurè angulato; aperturā subtrigonā, fuscā, ad marginem nigro maculatā, columellā rectiūsculā, latā, ad suturam valde callosā et canaliculatā; labro intūs validē lirato-denticulato, margine crenulato.*

THE GROOVED PLANAXIS. Shell trochanter-shaped, thick, deeply-grooved, spotted with reddish-brown, black and white, ribs prominent; spire conical; whorls five, last large, obscurely angular below the middle; aperture subtriangular, columella rather straight, broad, with a strong callus and a canal at the suture; outer lip strongly toothed within, margin crenulated.

BORN. (*Buccinum*) Mus. Vindob. p. 258, Pl. X. f. 5, 6.

Planaxis buccinoides. Deshayes.

Planaxis undulata. Lamarck.

Buccinum pyramidale. Lamarck.

Hab. Australia, Philippines, Mauritius, South Africa.

Species 5. (Mus. Brit.)

PLANAXIS OBSCURUS. *Pla. testā angustē pyramidatā, profundè et crebrè sulcatā, grisei, nuculatā; spirā elevatā, anfractibus quinīs, aperturā breviūsculā, canali postico lato, columellā irtuatā, ad terminalium acutā truncatā; labro intūs validē dentato, margine tenui, subflexuoso.*

THE OBSCURE PLANAXIS. Shell narrowly pyramidal, deeply and closely grooved, grey, spotted; spire elevated, whorls five; aperture rather short, sharply truncated; outer lip strongly toothed within, margin thin, rather flexuous.

A. ADAMS. Proc. Zool. Soc. 1851, p. 271.

Hab. —?

The whorls are more straight-sided than in *Planaxis planicostata*, and the grooves narrower.

Species 6. (Mus. Brit.)

PLANAXIS BREVICULUS. *Pla. testā breviter trochiformi, latā, crassā, spiraliter infrā magis profundā*

sulcatā, griseo-brunneā, nigro maculatā; spirā brevi, anfractibus quinīs, ultimo maximo, infra medium obscurè angulato; aperturā subtrigonā, fuscā, ad marginem nigro maculatā, columellā brevi, supernā validē callosā, infrā latā, latē truncatā, labro fuso, liris dentiformibus magnis.

THE SHORT LITTLE PLANAXIS. Shell shortly trochanter-shaped, broad, thick, spirally-grooved (more deeply below), grey-brown, spotted with black; spire short, whorls five, last very large, obscurely angular; aperture subtriangular, brown, black-spotted at the margin, columella short, with a strong callus above, broad below, broadly truncated, outer lip brown, with large tooth-shaped ridges.

DESHAYES. Mag. de Zool. 1844, Pl. CVIII.

Hab. Guam and New Guinea.

Broader and more finely grooved than *Planaxis sulcata*.

Species 7. (Mus. Hanley.)

PLANAXIS NUCLEUS. *Pla. testā ovato-acuminati, nigro-fusca, prope suturam, infra medium et post marginem apertura profundi sulcatā, medio lirigata; spirā breviūsculā, acuminatā; anfractibus brevibus, concavisculis; aperturā pyriformi, longiūsculā, validissimè bicamaliculatā, columellā latissimā, planulatā, medio longitudinaliter sulcatā, termino subrotundo; labio externo expanso, validē crenulato.*

THE LITTLE NUT PLANAXIS. Shell ovate-acuminated, black-brown, deeply grooved near the suture, below the middle and behind the margin of the aperture, smooth in the middle; spire rather short, acuminated, whorls short, a little convex; aperture pyriform, rather long, strongly bicamaliculated, columella very broad, flattened, with a longitudinal groove in the middle, with rather round end; outer lip expanded, strongly crenulated.

LAMARCK. Anim. s. Vert. Vol. VII. p. 249.

Planaxis semisulcata. Sowerby.

Hab. West Indies, Jamaica.

The grooves, which are deep at the margins and lower part of the last whorl, are obsolete in the middle of the whorls.

PLANAXIS.

PLATE I.

Genus PLANAXIS. Lamarck.

Testa ovato-conica, solidâ, plerùmque spiraliter sulcata; spira plerùmque brevis, conica; apertura subtriangularis, intùs dentato-lirata, antè leviter canalifera, emarginata; columella subarcuata, planata, ad terminum truncata; operculum ovato-oblongum, unispirale, nucleo ferè terminali.

Shell ovately conical, solid, generally spirally grooved; spire for the most part short, conical; aperture rather trigonal, tooth-ridged within, with a slight canal and notch in front; columella slightly arched, flattened, truncated at the end; operculum ovate-oblong, with one-whorled spire, nucleus nearly terminal.

Few genera so restricted in numbers are so widely spread in their habitats. We have identified 39 species, of which the greater number are tenants of Australian, South Sea Island, and Philippine groups. The Red Sea and Persian Gulf, the Mauritius and West Indies contribute their portion; the Chinese and Indian Seas have several, but there are no European species. The animals are marine, but partly amphibious, and spend a large portion of their existence above water. The slight canal and notch at the front of the aperture, and the flattened columella terminating in a notch, render this genus characteristic and easily distinguishable.

Species 1. (Mus. Hanley.)

PLANAXIS ENCAUSTICUS. *Pla. testâ crassâ, brevi, albida, corrugata, fusoque nebulatâ et fasciatâ, levigata; anfractibus senis ad septenos, ultimo ventricoso, infra medium rotundâ, ad suturam angustâ angulato, nigro-punctato, spiraliter, tenuiter, distanter, infra angulum validè sulcato; aperturâ castaneâ, columellâ brevi, latè truncatâ, prope suturam validè callosâ; labro intùs distanter et validè dentato-lirato.*

THE ENAMELLED PLANAXIS. Shell thick, short, whitish, clouded, and banded with blue and brown, smooth; whorls six to seven, the last ventricose, roundly angular below the middle, and narrowly at the suture; black-spotted, spirally, finely, distantly grooved, strongly below the angle; aperture chestnut, columella short, broadly truncated, with a strong callus near the suture,

outer lip distantly and strongly tooth-ribbed within.

SMITH. Proc. Zool. Soc. 1872, p. 38.

Hab. Arracan.

In the specimens from which the description was taken (no others being known) the upper whorls are much corroded, and the body whorl being smooth, with spiral grooves almost obsolete above, gives the remaining surface a sort of enamelled appearance.

Species 2. (Mus. Brit.)

PLANAXIS CASTANEUS. *Pla. testâ subpyriforme, levigata, castaneâ, spiraliter tenue striata, longitudine later obliquè sublirata; spira elevata, acuminata, anfractibus senis, convexisculis, ultimo bulbiforme, aperturâ parvâ, labro intùs 7-dentatulato, margini tenui, columellâ subarcuata, infâ subexpansâ.*

THE CHESTNUT PLANAXIS. Shell somewhat pyriform, smooth, chestnut, spirally finely striated, longitudinally obliquely slightly ridged; spire raised, acuminate, whorls six, rather convex; end bulb-shaped, aperture small, outer lip seven-toothed within, margin thin, columella slightly arched, rather expanded below.

SMITH. Proc. Zool. Soc. 1872, p. 41.

Hab. — ?

Species 3. (Mus. Brit.)

PLANAXIS CRASSISPIRA. *Pla. testâ oblongâ, subdiscretâ, spiraliter sulcatâ, grisea, nigro-punctatâ; spira elevata, crassâ, subcylindrica, obtusa; anfractu ultimo obtuse angulata, aperturâ parvâ, subtrigonâ, columellâ albâ, infâ late productâ, labro intùs validè dentato.*

THE THICK-SPINED PLANAXIS. Shell oblong, rather distantly spirally grooved, grey, spotted with black; spire elevated, thick, subcylindrical, obtuse; last whorl obtusely angular; aperture small, subtrigonous, columella white, broadly produced below; outer lip strongly toothed within.

SMITH. Proc. Zool. Soc. 1872, p. 39.

Hab. — ? *

Differing from *Planaxis sulcatus* in the narrow, straight-sided form.

PLANAXIS.—PLATE I.

Species 4. (Fig. a, b, c, Mus. Hanley.)

PLANAXIS SULCATUS. *Pla. testū trochiformi, crassā, profundè sulcatā, fuscō-rubescēti, nigro alboque maculatā, costis prominentibus; spirā conicā, anfractibus quinīs, ultimo magno, infra medium obscurē angulato; aperturā subtrigonā, columellā rectiūsculā, latā, ad suturam valdē callosā, infrā latā, latē truncatā, labro fuscō, liris dentiformib⁹ magis.*

THE GROOVED PLANAXIS. Shell trochus-shaped, thick, deeply-grooved, spotted with reddish-brown, black and white, ribs prominent; spire conical; whorls five, last large, obscurely angular below the middle; aperture subtriangular, columella rather straight, broad, with a strong callus and a canal at the suture; outer lip strongly toothed within, margin crenulated.

BORN. (*Buccinum*) Mus. Vindob. p. 258, Pl. X. f. 5, 6.

Planaxis buccinoides. Deshayes.

Planaxis undulata. Lamarck.

Buccinum pyramidale. Lamarck.

Hab. Australia, Philippines, Mauritius, South Africa.

Species 5. (Mus. Brit.)

PLANAXIS OBSCURUS. *Pla. testū angustē pyramidatā, profundē et crebrē sulcatā, griseā, maculatā; spirā elevatā, anfractibus quinīs, aperturā brevissimā, canali postico lato, columellā arcuatā, ad terminum acutē truncatā; labro intūs validē dentato, margine tenui, subflexuoso.*

THE OBSCURE PLANAXIS. Shell narrowly pyramidal, deeply and closely grooved, grey, spotted; spire elevated, whorls five; aperture rather short, sharply truncated; outer lip strongly toothed within, margin thin, rather flexuous.

A. ADAMS. Proc. Zool. Soc. 1851, p. 271.

Hab. —?

The whorls are more straight-sided than in *Planaxis planicostata*, and the grooves narrower.

Species 6. (Mus. Brit.)

PLANAXIS BREVICULUS. *Pla. testū breviter trochiformi, latā, crassaliter (infra magis profundē)*

sulcatā, griseo-brunneā, nigro maculatā; spirā brevi, anfractibus quinīs, ultimo maximo, infra medium obscurē angulato; aperturā subtrigonā, fuscā, ad marginem nigro maculatā, columellā brevi, superne validē callosā, infrā latā, latē truncatā, labro fuscō, liris dentiformib⁹ magis.

THE SHORT LITTLE PLANAXIS. Shell shortly trochus-shaped, broad, thick, spirally-grooved (more deeply below), grey-brown, spotted with black; spire short, whorls five, last very large, obscurely angular; aperture subtriangular, brown, black-spotted at the margin, columella short, with a strong callus above, broad below, broadly truncated, outer lip brown, with large tooth-shaped ridges.

DESHAYES. Mag. de Zool. 1844, Pl. CVIII.

Hab. Guam and New Guinea.

Broader and more finely grooved than *Planaxis sulcata*.

Species 7. (Mus. Hanley.)

PLANAXIS NUCLEUS. *Pla. testū orato-acuminatā, nigrofuscā, prope suturam, infra medium et post marginem aperturā profundē sulcatā, medio levigatā; spirā breviūsculā, acuminatā; anfractibus brevibus, convexiūscens; aperturā pyriformi, longiūsculā, validissimē bicanalliculatā, columellā latissimā, planulatā, medio longitudinaliter sulcatā, termino subrotundo; labio extero expanso, validē crenulato.*

THE LITTLE NUT PLANAXIS. Shell ovate-acuminata, black-brown, deeply grooved near the suture, below the middle and behind the margin of the aperture, smooth in the middle; spire rather short, acuminated, whorls short, a little convex; aperture pyriform, rather long, strongly bicanalculated, columella very broad, flattened, with a longitudinal groove in the middle, with rather round end; outer lip expanded, strongly crenulated.

LAMARCK. Anim. s. Vert. Vol. VII. p. 249.

Planaxis semisulcata. Sowerby.

Hab. West Indies, Jamaica.

The grooves, which are deep at the margins and lower part of the last whorl, are obsolete in the middle of the whorls.



13

14a



15



15b



16

16b

PLAXIS.

PLATE II.

Species 8. (Mus. Hanley.)

PLANAXIS NIGRITELLUS. *Pla. testā brunneo-nigrescenti; spirā obtusā, conicā; anfractibus quinīs, convexis, distanter sulcatis, ultimo magno, sulcis medio suberanidis; columellā supernē callosā, arcuatā; labro subpatulo, intūs tenuiter lirato.*

THE LITTLE BLACK PLANAXIS. Shell blackish brown; spire obtuse, conical; whorls five, rather convex, distantly sulcated; last large, with the sulci nearly obsolete in the middle; columella callous above, arched; outer lip rather patulous, finely ridged within.

FORBES. (*Nigritella.*) Proc. Zool. Soc. 1850. Pl. II. f. 6.

Planaxis acutus. Menke.

Planaxis obsoletus. Menke.

The above name is given to the species by Mr. Smith on account of the name *acutus* being previously applied to another species.

Hab. Mazatlan.

Species 9. (Mus. Brit.)

PLANAXIS ACUTUS. *Pla. testā brunneā, acutē pyramidatā; anfractibus septenīs, connexis, mediolāvigateis, suprā infrāque tenuiter sulcatis; aperturā breviūsculā, latā, subcaeruleā; columellā latā, labro intūs tenuiter lirato.*

THE ACUTE PLANAXIS. Shell brown, sharply pyramidal; whorls seven, convex, smooth in the middle, finely sulcated above and below; aperture rather short, broad, slightly blue; columella broad; outer lip finely ridged within.

KRAUSS. Südafrikanischen Mollusken. Tab. VI. f. 2.
Hab. Natal.

Species 10. (Mus. Brit.)

PLANAXIS ATROPURPUREUS. *Pla. testā nigro-plumbeā, oblongā, obtusā, lāvigateā, anfractibus tribus, parum convexis, ultimo infrā sulcis tribus leviter sculpto; aperturā subtrigondā, castaneā, labro intūs lāvigato, supernē subdepresso.*

THE PURPLE-BLACK PLANAXIS. Shell black-lead, oblong, obtuse, smooth, whorls three, rather convex, last lightly sculptured below with three grooves; aperture subtriangular, brown; outer lip smooth within, slightly depressed above.

RECLUZ. Revue Zoologique, 1843, p. 261.

Planaxis Albersii. Dunker.

Hab. South Seas.

Species 11. (Mus. Hanley.)

PLANAXIS SIMILIS. *Pla. testā subpyramidatā, brunnea, omnino subdistanter salientā, sulcis prope suturam et infra medium fortioribus; spirā pyramidatā, acuminatā; anfractibus septenīs, superioribus convexis, sulcatis; aperturā purpurascens, labro crasso, intūs dentato-lirato, callo labiali postico distincto, pareo; rimā angustā.*

THE SIMILAR PLANAXIS. Shell rather pyramidal, brown, in every part rather distantly grooved; grooves stronger near the suture and below the middle; spire pyramidal, acuminated; whorls seven, upper rather convex; aperture purplish, lip thick, tooth-ridged within, posterior labial callus distinct, small; notch narrow.

SMITH. Proc. Zool. Soc. 1872, p. 41.

Hab. Sandwich Islands.

More conical than *Planaxis Hanleyi*, with less expanded aperture, thicker outer lip and nearly equal grooves in every part.

Species 12. (Mus. Hanley.)

PLANAXIS HANLEYI. *Pla. testā subovatā, brunnea; spirā convexo-conicā; anfractibus senis, moderatè convexis, apicalibus politis, exteris suprā infrāque spiraliter sulcatis; ultimo magno, infrā fortissimè sulcato; aperturā magni, patuli; labro tenuissimulo, intūs tenuissime lirato, rimā suturali subrotundatā.*

HANLEY'S PLANAXIS. Shell subovate, brown; spire convexly conical; whorls six, moderately convex;

PLANAXIS.—PLATE II.

apical polished, others spirally grooved above and below; last large, very strongly grooved below; aperture large, patulous; outer lip very thin, very finely ridged within, sutural notch rather rounded.

SMITH. Proc. Zool. Soc. 1872.

Hab. Sandwich Islands.

Mr. Smith mentions as a variety a specimen in which the posterior callus and inflected edge of the outer lip almost meet, so as to form a rounded hole like that in *Pupina*. I regard this as only a slight malformation. Yet the slit in this species is generally rounder than in *Planaxis similis*.

Species 13. (Mus. Hanley.)

PLANAXIS NIGER. *Pla. testâ nigrâ, ovato-pyramidalâ, spirâ acuminatâ, anfractibus senis, apicalibus albis, politis, ultimo magno, epidermide tenui, subviridi, infrâ angustâ sulcato; aperturâ subtriangularâ, canali antico rotundo, canali postico lato; labio expanso, patulo, intus incrassato, tenuissimè crenulato.*

THE BLACK PLANAXIS. Shell black, ovately pyramidal, spire acuminate, whorls six, apical, white, polished, last large, covered with a greenish epidermis, narrowly grooved below; aperture rather trigonal, anterior canal rounded, posterior canal broad; outer lip expanded, patulous, thickened and very finely crenulated within.

Quoy. (*Nigra.*) Voyage de l'Astrolabe, p. 49.

Hab. New Ireland.

Species 14. (Mus. Hanley.)

PLANAXIS LABIOSUS. *Pla. testâ obliquâ subpyramidalâ, griseâ, fasciis nigrescentibus, medio angustatis cinctâ, epidermide densè ciliatâ intutâ, anfractibus quinque, apicali acuto, ultimo maximo; aperturâ magnâ intus, prope marginem crassâ, levigatâ.*

THE LIPPED PLANAXIS. Shell obliquely subpyramidal, grey, and girt with blackish bands, narrow in the middle, covered with a thickly ciliated epidermis,

whorls five, apical sharp, last very large; aperture large, thick within, near the margin, smooth.

ADAMS (A.) Proc. Zool. Soc. 1851. p. 272.

Planaxis plumbea. Pease.

Planaxis Bronni. Dunker.

Planaxis pediculus. Kusten.

Hab. Sandwich Islands.

Species 15. (Mus. Hanley.)

PLANAXIS CINGULATUS. *Pla. testâ acutâ pyramidatâ, spirâliter crebrè sulcatâ; anfractibus septenis, supernâ fuscâ latâ fasciatâ, medio angustâ lineatâ; aperturâ breviâsculâ, purpurascenti, labio externo intus liro-dentato, margine lineo-punctato; columellâ subumbilicatâ.*

THE BELTED PLANAXIS. Shell sharply pyramidal, spirally closely grooved; whorls seven, broadly banded above with brown, narrowly lined in the middle; aperture rather short, purplish, outer lip tooth-ridged within, margin line-spotted; columella subumbilicated.

ADAMS (Arthur). Proc. Zool. Soc. 1851, p. 271.

Hab. China Seas.

Species 16. (Mus. Hanley.)

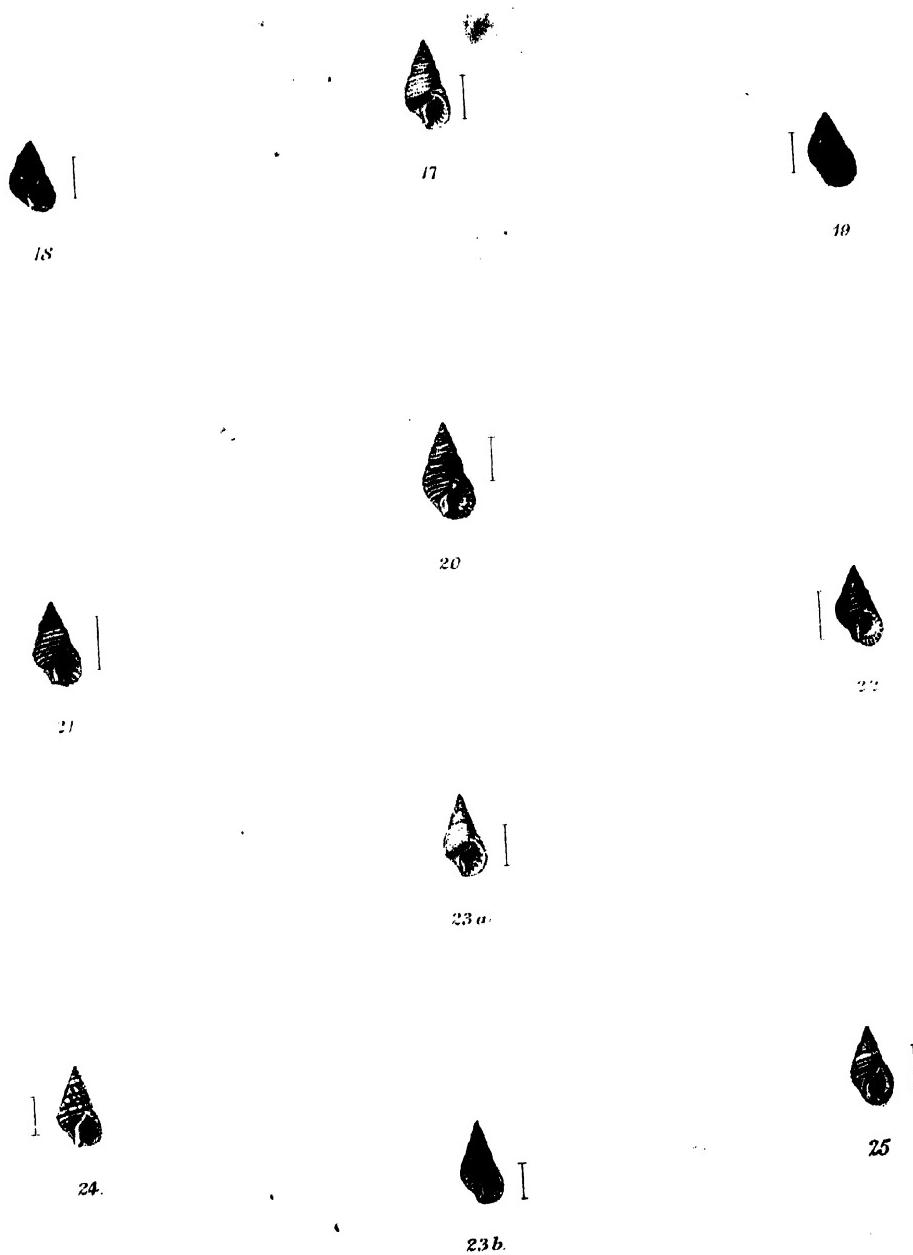
PLANAXIS STRIATULUS. *Pla. testâ ovato-pyramidalâ; fulvâ, levigatâ, rubro spirâliter lineatâ; spirâ acuminatâ, conicâ; anfractibus senis; aperturi breviâsculâ, columellâ labroque purpureis, labo intus incrassato, vix lirato.*

THE STRIATED PLANAXIS. Shell pyramidal; fulvous, smooth, spirally lineated with red; spire acuminate, conical; whorls six; aperture rather short, columella and outer lip purple, outer lip thickened within, scarcely ridged.

PHILIPPI. Zeitschrift für Malak. 1851. p. 91.

Hab. — ?

The species is subject to some variation, one variety being nearly white and another (in the British Museum) with only a broad cærulean band in the middle of the whorls.



PLANAXIS.

PLATE III.

Species 17. (Mus. Hanley.)

PLANAXIS SUTURALIS. *Pla. testā parē, albī, crassū, cinctū, turritū, pyramidatū, apice acuminatō; anfractibus septenīs, suturā excavatā separatis, spirāliter profundiā sulcatīs, supernā angulatīs, inter sulcas planatīs, columellā supernā breviter callousā, canali postico brevi, aperturā brevi; labro crasso, dentibus internis liriformibus decem.*

THE SUTURAL PLANAXIS. Shell small, white, rather thick, turreted, pyramidal; apex acuminate; whorls seven, separated by a deep suture, spirally deeply grooved, angular above, flat between the grooves; columella shortly callous above, posterior canal short; aperture short; outer lip thick, inner ridge-shaped teeth ten.

SMITH. Proc. Zool. Soc. 1872.

Hab. Chinese Seas.

Species 18. (Mus. Brit.)

PLANAXIS ATER. *Pla. parē, oblongo-pyramidalē, nigra, obscurissimē fasciatā; spira elongatā, conicā, anfractibus sevis, lateralliter subcomplanatīs, ultimo marginatō; aperturā purā, breviter subtrigonatā, intus septen-liratā; canali postico nullo.*

THE DARK PLANAXIS. Shell small, oblong-pyramidal, black, very obscurely banded; spire elongated, conical, whorls six, laterally rather flat, last rather large; aperture small, shortly subtrigonal, with seven internal ridges; no posterior canal.

PEASE. (*Atra.*) American Journ. of Conchology.

Hab. Marquesas Islands.

In the obscurity of the dark colouring, light interspaces of dark lines can be traced; and the species somewhat resembles the more obscure varieties of *Planaxis lineata*.

Species 19. (Mus. Hanley.)

PLANAXIS ABBREVIATUS. *Pla. testā nigra, levigatā, subovatā, brevi; spirā brevissimā, anfractibus quaternis, ultimo maximo, infrā quinque-sulcato, aperturā purpureo-nigrescenti, magnā, intus tenuiter liratā, canali postico latiusculo.*

THE ABBREVIATED PLANAXIS. Shell black, smooth, subovate, short; spiro very short, whorls four, last large, five-grooved below; aperture blackish-

purple, large, finely ridged within, posterior canal rather wide.

PEASE. (*Abbreviata.*) Proc. Zool. Soc. 1865, p. 515.
Hab. Sandwich Islands.

Considerably shorter in the spire than *Planaxis wiger* of Guoy, which it otherwise much resembles.

Species 20. (Mus. Hanley.)

PLANAXIS LINEATUS. *Pla. testā parē, oblongo-pyramidalē, fulvā vel griseā, varii spirāliter rubro vel nigro spirāliter lineatā et fasciatā, spirā elongatā, acuminatā, anfractibus sevis ad septenos, quatuor primis sulcato-liratīs; aperturā brevi, subtrigonatā, intus distanter dentato-liratā, canali postico nullo.*

THE LINEATED PLANAXIS. Shell small, oblong-pyramidal, fulvous or grey, variously spirally lined and banded; spire elongated, acuminate, whorls six or seven, first four groove-ridged; aperture short, subtrigonal, distantly tooth-ridged within, no posterior canal.

COSTA. (*Buccinum.*) Brit. Conch. p. 130.

Buccinum pediculare. Lamarck.

Hab. West Indies.

This well-known West Indian shell was first described by Da Costa as British. A foreign specimen must have come into his hands by mistake.

Species 21. (Mus. Hanley.)

PLANAXIS SUCCINCTUS. *Pla. testā parē, ovato-pyramidalē, fulvā subdistanter tenuiter rubro-liratā; spirā subelevatā, acuminatā; anfractibus sevis, convexiōsculis, superioribus lirato-sulcatis; aperturā brevissimā, latā, intus liratā, canali postico nullo.*

THE LINE-GIRT PLANAXIS. Shell small, ovately pyramidal, fulvous, rather distantly, finely red-lined; spire slightly elevated, acuminate; whorls six, rather convex, upper groove-ridged; aperture rather short, broad, ridged within; no posterior canal.

A. ADAMS. Proc. Zool. Soc. 1851, p. 272.

Hab. West Indies.

The lines are thinner and more distant, the whorls are more rounded and the spire is shorter in pro-

PLANAXIS.—PLATE III.

portion to the aperture than in *Planaxis lineatus*. Yet the variations in individuals is such that the two species are determined with difficulty.

Species 22. (Mus. —? Copied)

PLANAXIS HERMANNSENI. *Testā parvā, solidā, orato-oblongā, atro-fuscā, lineis fulvis cinctā; spirā acuminatā, anfractibus seruis, convexis, apicalibus sulcatis, ultimo infrā sulcato, ventricoso; caudā post columellam umbilicatā; aperturā ovalā, patulā, albā, lineatā, intus incrassatā, liratā.*

HERMANNSEN'S PLANAXIS. Shell small, solid, ovately oblong, black-brown, girt with fulvous lines; spire acuminate; whorls six, convex, apical, grooved, last grooved below, ventricose, cauda umbilicated behind the columella; aperture ovate, patulous; white, lineated, thickened within, ridged.

DRINKER. Ind. Moll. p. 16. Pl. II. f. 33.

Hab. Benguela.

Species 23. (Mus. Brit.—Hanley.)

PLANAXIS VARIABILIS. *Pla. testā parvā, elongatā, albā, lineis spiralibus rubescensibus ornatā, spirā conicā, rectilaterali, acuminatā; anfractibus superioribus sulcatis, ultimo suprā infrāque valide, medio leviter sulcato; aperturā pareū, brevi; columellā infrā brunneō tinctā, collo canalique posticis nullis.*

THE VARIABLE PLANAXIS. Shell small, elongated, white, ornamented with spiral reddish lines, spire conical, straight-sided, acuminate; upper whorls grooved, last grooved strongly above and below, slightly in the middle; aperture small, short; columella tinged with brown below; no posterior callus or canal.

SMITH. Proc. Zool. Soc. 1872, p. 44.

Hab. Fiji Islands. Var. China Seas.

Figure b represents the variety in the Collection of Sylvanus Hanley, Esq.

Species 24. (Mus. Brit.)

PLANAXIS VIRGATUS. *Pla. testā elongatā, fulvā, lineis spirali bus paucis, et strigis longitudinalibus irregularibus ornatā; spirā acuminatim productā; anfractibus octonis, convexiusculis, superioribus sulcatis, ultimo infrā sulcato; aperturā subovata, pareū; labro acutè marginato; intus incrassato, denticulato; collo canalique posticis nullis.*

THE STRIPED PLANAXIS. Shell elongated, fulvous, ornamented with few spiral lines and longitudinal irregular stripes, spire acuminately produced; whorls eight, rather convex, upper grooved, last grooved below; aperture subovate, small; outer lip sharp-edged; thickened within, denticulated; no posterior callus or canal.

SMITH. Proc. Zool. Soc. 1872, p. 44.

Hab. Fiji Islands.

Species 25. (Mus. Hanley.)

PLANAXIS STRIGATUS. *Pla. testā parvā, albā, solidā, spiraliter distanter rubro-lineatā; spirā acuminatā, anfractibus novenis, superioribus sulcatis, penultimo tenuiter striato; ultimo infrā sulcato; aperturā spiram longitudine aequanti; columellā labroque albī vel pallidē violaceis; labro intus incrassato, denticulato, margine acuto.*

THE STREAKED PLANAXIS. Shell small, white, solid; spirally distantly red-lined; spire acuminate, whorls nine, upper grooved, last finely striated; last grooved below; aperture equaling spire in length; columella and lip white or pale violet, outer lip thickened within, denticulated, margin sharp.

HANLEY. MS. in Coll.

Hab. Pacific.

Neither the *P. virgatus* var. so marked in the British Museum, nor the "strigatus var." in Mr. Hanley's Collection seem to me to agree with the type of Mr. Smith's *P. virgatus*, but resemble each other, with the exception that the former has a little purple in the lips.



26a.



27



28



26b



29a



29b



30a



30b



31



32

PLANAXIS.

PLATE IV.

Species 26. (Mus. Hanley.)

PLANAXIS PLANICOSTATUS. *Pla. testā trochiformi, magnā, solidā, fuscā, epidermide tenuiter rugatā indentā, costis planatis latis cinctā, interstitiis profundis; spirā conicā, anfractibus septenis ad suturam angustā angulatis; suturā profundā, ultimo magno, infra medium obscurissimè angulato; aperturā subtrigonā, columellā latè planatā, callo postico maximo, labro ad marginem tenui, crenulato, supernè depresso, intus liris dentiformibus septenis armato, canali postico angusto elongato.*

THE FLAT-RIBBED PLANAXIS. Shell trochus-shaped, large, solid, brown, covered with a finely wrinkled epidermis, girt with flat, broad ribs; interstices deep; spire conical, whorls seven, narrowly angular at the suture; suture deep; last large, very obscurely angular below the middle; aperture subtriangular, columella broadly flattened, posterior callus very large, outer lip thin, crenulated at the margin, depressed above, strengthened within with seven tooth-like ridges; posterior canal narrow, elongated.

SOWERBY. Append. TANK. Cal. p. 13, 1825.

Planaxis canaliculata. Duval.

Planaxis circinata. Lessen.

Hab. Galapagos Island and Panama.

Species 27. (Mus. Hanley.)

PLANAXIS TENUIS. *Pla. testā tenui, elongatā, politā, semipellucidā, albida, lineis rubris paucis distan- tibus cinctā; spirā elongatā; anfractibus octonis, convexiunculis, spiraliter leviter sulcatā, ultimo elongata, infra validē sulcato et ventricoso; aperturā brevi, angustā, labro tenui, callo canalicu poeticis nullis.*

THE THIN PLANAXIS. Shell thin, elongated, polished, semipellucid, whitish, girt with few distant red lines; spire elongated; whorls eight, rather

convex, spirally lightly grooved, last elongated, strongly grooved and ventricose below the middle, aperture short, narrow, outer lip thin, no posterior callus or canal.

SMITH. Proc. Zool. Soc. 1872. p. 45.

Hab. —?

Species 28. (Mus. Brit.)

PLANAXIS INEPTUS. *Pla. testā parvā, pallidissimè fulvi, supra suturam rubro lineatā, spiraliter sulcatā; spirā elongatā, anfractibus septenis, convexiunculis, ultimo ventricoso, medio bilineato; aperturā brevi, subrotundā.*

THE UNIMPORTANT PLANAXIS. Shell small, very pale fulvous, with a red line above the suture, spirally grooved; spire elongated, whorls seven, rather convex; last ventricose, with two lines in the middle; aperture short, rather rounded

GOULD. (*Inepta.*) Proc. Boston. Soc. Nat. Hist. 1860.

Hab. Kikain Bay.

Species 29. (Fig. a, b, Mus. Brit.)

PLANAXIS ZONATUS. *Pla. testā parvā, politā, solidā, albida, supra suturam et medio infrāque anfractū ultimi lineā rubrā cinctā; anfractibus septenis, ultimo subventricoso; aperturā latā, brevi; labro prope marginem incrassato, denticulato.*

THE BANDED PLANAXIS. Shell small, polished, solid, whitish, girt with a red line above the suture and in the middle and below the middle of the last whorl; whorls seven, last rather ventricose; aperture broad, short; outer lip thickened near the margin, denticulated.

A. LEAMS. Proc. Zool. Soc. 1851, p. 271.

Hab. Calapan, Philippines.

Species 30. (Fig. a, b, Mus. Hanley.)

PLANAXIS SAVIGNYI. *Pla. testā magnā, crassā, breviter trochiformi, infra medium subangulatā, omnino*

PLANAXIS.—PLATE IV.

crebrè sulcatâ, griseo-fuscâ; strigis numerosis angustis, undulatis, longitudinalibus ornatâ; spirâ brevi; anfractibus quinque, brevibus, convexiñsculis; ultimo magno, supra medium tumidiñsculo; aperturâ subtrigonâ, labro intus valde dentato, lirato, margin'e fuso, tenui, crenato, columellâ breviñsculâ, callo postico conspicuo.

SAVIGNY'S PLANAXIS. Shell large, thick, shortly trochiform, slightly angular below the middle, numerously grooved all over, grey-brown, ornamented with numerous narrow undulating longitudinal stripes; spire short; whorls five, short, rather convex; last large, rather tumid above the middle, aperture rather trigonal; outer lip strongly tooth-ridged within, margin broad, thin, crenated, columella rather short; posterior callus conspicuous.

DESHAYES. Mag. Zool. 1844. Pl. CIX.

Hab. Red Sea.

The sulci are more numerous than in *Planaxis subcatus*, and not deeply cut.

Species 31. (Mus. Brit.)

PLANAXIS LINEOLATUS. *Pla. testa pareâ, densè spiraliter sulcatâ, rubro lineatâ, subventricosâ, spirâ acuminatâ, anfractibus convexiñsculis; aperturâ subrotundâ, columellâ tenui, valde arcuatâ, labro intus denticulato, prope marginem incrassato, margine rotundo.*

THE FINE-LINED PLANAXIS. Shell small, closely spirally grooved, lined with red, rather ventricose; spire acuminated, whorls rather convex; aperture rather round, columella thin, much arched, outer lip denticulated within, thickened near the margin, margin rounded.

GOULD. Otia Conch. p. 60.

Hab. Wilson's Island, near the Sandwich Islands.

Species 32. (Mus. Hanley.)

PLANAXIS LONGISPIRA. *Pla. testâ pareâ, elongatâ, angustâ, albidiâ, medio ultimi anfractâs et infra rubro bilineatâ; spirâ productâ, anfractibus convexiñsculis, laccibus, politis, ultimo basi salvato; aperturâ pareâ, quam spira longe breviori; columellâ brevi, arcuatâ, pallidâ violaceâ; labro crassiñsculo, callo postico nullo.*

THE LONG-SPINED PLANAXIS. Shell small, elongated, narrow, whitish, with two red lines in the middle of the last whorl and below; spire produced, whorls rather convex, smooth, polished; last grooved at the base; aperture small, much shorter than spire; columella short, arched, pale violet; outer lip rather thick; no posterior callus.

SMITH. Proc. Zool. Soc. 1872, p. 45.

Hab. Chinese Seas.





34 a



33



34 b



36 a



35 a



36 b



37 a



35 b



38



37 b

P L A N A X I S.

PLATE V.

Species 33. (Mus. Brit.)

PLANAXIS EBOREUS. *Pla. testā albā, parvā, ovato-acuminatā, ad apicem fulvā; spirā elevatā, mucronatā; anfractibus octonis, inferioribus convexis, spiraliiter sulcatis, costis inter sulcis dimidiatis; aperturā subovatā; labro ad marginem acuto, brunneo maculato, intus incrassato, denticulato; columellā arcuatā, callo postico parvo.*

THE IVORY PLANAXIS. Shell white, small, ovately acuminate, fulvous at the apex; spire raised, mucronated; whorls eight, lower convex, spirally grooved, ribs between the grooves divided; aperture subovate, outer lip sharp at the margin, spotted with brown, thickened and denticulated within; columella arched, posterior callus small.

SMITH. Proc. Zool. Soc. 1872, p. 42.

Hab. St. Thomas and St. Vincent, West Indies.

The ribs are divided by a spiral line in the centre.

Species 34. (Fig. a, b, Mus. Brit.)

PLANAXIS PUNCTO-STRIATUS. *Pla. testā angustē pyramidalatā, lineis minutissimè puncto-striatis spiraliiter cinctā, lœvi, pallidè fulvā, maculis parvis sub-quadratis castaneis seriatim dispositis ornatā; spirā elongatā, anfractibus senis, convexiunculis, ultimo subcentricoso; aperturā brevi, subovatā, antice valde emarginatā, margine labri maculato.*

THE PUNCTURE-STRIATED PLANAXIS. Shell narrowly pyramidal, spirally encircled with very minute puncture-striated lines, smooth, pale fulvous, ornamented with small square chestnut spots; spire elongated, whorls six, rather convex, last rather ventricose; aperture short, subovate, anteriorly strongly notched, margin of the outer lip spotted.

SMITH. MS. Mus. Brit.

Hab. —?

Species 35. (Fig. a, b, Mus. Hanley.)

PLANAXIS BRASILIANS. *Pla. testā elongato-pyramidalis, lœvi, albā, crassiissimā, epidermide pilosā induitā; spirā elevatā, anfractibus septenis, supe-*

rioribus frequenter griseo fasciatis, ultimo infra medium obtuse angulata; apertura parvā, ovatā, fulvā; labro ad dorsum tumido, supra marginem deflexo, intus cable incrassato denticulato; columellā brevi, incrassatā, arcuatā, antice productā, canali antico elongato, extus tumido.

THE BRAZILIAN PLANAXIS. Shell elongate-pyramidal, smooth, white, very thick, covered with a velvety epidermis; spire raised, whorls seven, upper often banded with grey, last obtusely angular below the middle; aperture small, ovate, fulvous, outer lip tumid at the back, bent down above the margin, much thickened and denticulated within; columella short, thickened, arched, produced anteriorly, anterior canal lengthened, tumid outside.

LAMARCK. (Buccinum.) Anim. s. Vert. Vol. VII. p. 272.

Planaxis mollis. Sowerby.

Buccinum levigatum. Wood.

Planaxis fulva. A. Adams.

Planaxis pigra. Forbes.

Hab. Brazil.

Species 36. (Fig. a, b, Mus. Hanley and Brit.)

PLANAXIS (Quoyia) MICHAUDI. *Pla. testā pyramidalatā, elevatā, levigatā, fuscā, fulvo vel griseo longitudinaliter fasciatā; spirā elongatā, conicā; anfractibus septenis, convexiunculis, ultimo infra medium angulata, super varicem canalis leviter spiraliiter striata; aperturā brevi, subtrigonā, columellā supernè quadratim excisi, acutè unidentatā, ad terminum truncatā; labro intus tenuiter lirato-denticulato; canali antico brevi, rotundo.*

MICHAUD'S PLANAXIS. Shell pyramidal, raised, smooth, brown, longitudinally striped with fawn or grey; spire elongated, conical; whorls seven, rather convex, last angular below the middle, lightly spirally striated above the varix of the canal; aperture short, subtrigonal, columella cut out in a square above, with a sharp tooth, truncated at the end; outer lip finely ridge-toothed; anterior canal short, round.

CROSSE and FISCHER. Journ. Conch. Vol. XI. p. 375.

Hab. Eastern Seas.

MONOGRAPH

OF THE GENUS

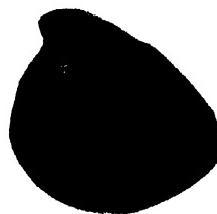
V E L O R I T A.

Thou jubilant abyss of ocean cry,

Alleluia !

Ye tracts of earth and continents reply,

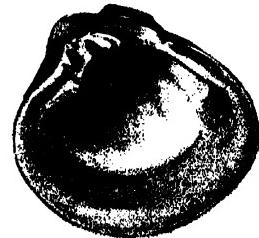
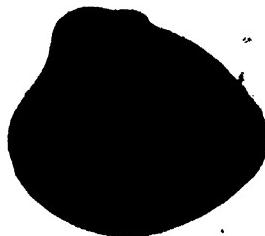
Alleluia ! — *Nende.*



1b



1c.



2b

VELORITA.

Genus VELORITA, Gray.

MOLLUSCUM ACEPHALOPODUM, BIMUSCULOSUM, FLUVIATILE.

Testa crassâ, solidâ, aequivalvi, epidermide crassâ, nitenti indutâ; umboibus a cardine separatis; cardine crasso, ultrâque valvâ dentibus tribus cardinalibus divergentibus; dentibus lateralibus, antico breviuscule, angulato, postico elongato. Pallii impressio posticè angulatim sinuosa. Ligamentum externum, magnum.

MOLLUSC ACEPHALOPODOUS, BIMUSCULAR, FLUVIATILE.

Shell thick, solid, equivalve, covered with a thick, shining epidermis; umboes separated from hinge. Hinge thick, with three diverging cardinal teeth in each valve; lateral teeth, anterior rather short, angular, posterior elongated. Impression of the mantle posteriorly, angularly sinuated. Ligament external, large.

The two species described are from Japan and Cochin, in India. The former is the well-known *Velorita cyprinoides*, and the latter recently described by Mr. Smith of the British Museum. We are unacquainted with the so-called *Velorita recurvata* of Valenciennes. The solidity of the shell, the very peculiarly angular front lateral tooth, and the separation by a small area of the umboes, are the characteristics of the genus.

Species 1. (Mus. Sowerby.)

VELORITA CYPRINOIDES. *Vel. testâ altissimâ, solidissimâ, tumidissimâ, validè obliquâ, liris concentricis distantibus, plerùmque ad latera continua rugatâ, intus albâ, vel roseo violaceoque tinctâ; latere antico brevissimo, perpendiculari, infra umbones areâ subrotundâ, planulatâ; latere postico producto, infrâ acuminate, angulato, subcarinato, post angulum planulato.*

THE CYPRINA-LIKE VELORITA. Shell very high, very solid, very tumid, very oblique, wrinkled with distant concentric ridges, for the most part continued to the sides, white, or tinged with rose or violet within; anterior side very short, perpendicular, with a rather rounded, flattened area; posterior side produced, acuminated below, angular, slightly keeled, flattened behind the angle.

GRAY. —? MS. Brit. Mus.

Hab. Japan.

Species 2. (Mus. Brit.)

VELORITA COCHINENSIS. *Vel. testâ subovata, lati, obliquâ, subcompressed, liris concentricis distantibus, plerùmque post medium discontinuis rugatâ, intus salmonâ et aurantiâ; latere antico brevi, ferè perpendiculari, infra umbones planulatâ; latere postico obliquâ producto, vix carinato, angulato, post angulum planulato, ad terminum subtruncato.*

THE COCHIN VELORITA. Shell subovate, broad, oblique, subcompressed, wrinkled with distant concentric ridges, for the most part discontinued posteriorly behind the middle, salmon and orange within; posterior side obliquely produced, hardly keeled, angular, flattened behind the angle, truncated behind the middle.

HANLEY. Smith, Proc. Zool. Soc. 1875.

Hab. Cochin, Kinderpore, Madras.

The differences between this and the former species, consisting in the greater breadth and less elevated apex of the latter, the tendency of its wrinkles to stop near the anterior half of the shell, are more comparative than positive, and, in a number of specimens, some are found in which these characters are almost interchangeable.

MONOGRAPH
OF THE GENUS
PTEROPODA.

We float upon a wild and violent sea, each way, and move.

Shakspeare

Pteropoda Pl
(Hyaloxa.)



1.a.



3.



4.a.



5.a.



5.b.



4.b.



1.b.

Vincent Brooks Day
1870

P T E R O P O D A.

PLATE I.

Genus HYALEA. Lamarck.

*Testa hyalina, tenuissima; subglobosa, lateraliter appen-
diculata, symmetrica; apice nonspiralis; apertura
angusta, lateraliter incisa; labro marginato,
plerumque in rostrum producto.*

Shell glassy, very thin, subglobose, with lateral appendages, symmetrical; apex non-spiral; aperture narrow, laterally incised; outer lip bordered, generally produced into a beak.

SYNONYM. *Carolina Glaeni.*

The Pteropoda are placed by authors, who have studied their peculiarities, between the Cephalopoda and the Gasteropoda. The name of the class is happily chosen to suggest the wing-like pair of flappers or fins which, placed on each side of the head, effect by their action the locomotion of the mollusc. The greater part of the species are common to all seas; a few being perhaps peculiar to the Atlantic, and a few to the Pacific. They can be seen in the evening or at night floating at the surface of the water in great numbers, but at sunrise they sink to various depths, and are seen no more till the luminary of day disappears from the horizon. It is said that each species has its own precise moment for retiring, and its own appointed depth to which to sink.

The shells of some of the genera are obliquely spiral; as *Hemifusus* and *Chelitropis*. Some are symmetrically spiral. Some have an operculum. *Cymbulia*, a boat-shaped symmetrical cartilage, but no shell. The form of the shell in *Hyalea* bears a considerable resemblance to a symmetrical bivalve shell with the valves soldered together at the dorsal hinge.

Species 1. (Mus. Brit.)

HYALEA UNCIATA. *Hya. testa tenuissimam, succinam,
tumidam; posticè trispinosa, spinis lateralibus tri-
gonis, acutis, spinam terminali deflexam, uncinata;
apertura angustissimula, labro angustè marginato,
medio paulò producto.*

THE HOOKED HYALEA. Shell very thin, amber,

tumid, posteriorly three-spined, lateral spines three-sided, sharp terminal spine bent downwards, curved; aperture rather narrow, outer lip narrowly bordered, a little produced in the middle.

RANG. D'Orbigny. Voy. Amér. Mérid. Pl. V. f. 11-15.
Hab. Atlantic Ocean.

Distinguished from *Hyalea Trispinosa* by the more pent-up form, and by the hooked character of the central spine.

Species 2. (Mus. —? Copied.)

HYALEA FLAVA. *Hya. testa flavida, tenuissimam, ovati,
subcompressa, posticè trispinosa, spinis lateralibus
subapproximatis, spinam centrali elongata, apertura
angusta, labro bilobato.*

THE YELLOW HYALEA. Shell flavid, very thin, oval, subcompressed, three-spined posteriorly; lateral spines rather approximate, central spine long; aperture narrow, outer lip bilobate.

D'ORBIGNY. Voy. Amér. Mérid. Pl. V. f. 21-25.
Hab. Atlantic Ocean.

Distinguished from *Hyalea trispinosa* by its oval and more compressed form.

Species 3. (Mus. Brit.)

HYALEA AFFINIS. *Hya. testa dense fuscata, quam H.
tridentata angustiora, magis rotundata, rostro aper-
tura producta, bilobata.*

THE RELATED HYALEA. Shell deep brown, narrower than *Hyalea tridentata*, the rostrum of the mouth produced, bilobate.

D'ORBIGNY. Voy. Amér. Mérid. Pl. V. f. 6-10.
Hab. Atlantic Ocean.

By the character of the shell alone the species would scarcely be distinguishable from the common species, and for this reason the writer has confined himself to the above very short comparative description.

PTEROPODA.—PLATE I.

Species 4. (Mus. Brit., &c.)

HYALEA TRIDENTATA. *Hya. testā intensē fusca, tenui, infrā pallidiori, posticē acutē trispinosā; spinis lateralibus aliformibus, spinā terminali rectā, disco inferiore substrigono, aperturam versus divaricatum subtrilobato; disco superiori globoso, ad latera marginato; aperturā trigonā, labro rostrato, margine subquadridobato.*

THE THREE-SPINED HYALEA. Shell deep brown, thin, rather paler underneath, posteriorly sharply three-spined, lateral spines wing-shaped, terminal spine straight, lower disc substrigonal to subtrilobate towards the aperture; upper disc globose, bordered at the sides; aperture trigonal, outer lip beaked, margin slightly four-lobed.

FORSKAL (Cavolina).

Hyalaea papilionacea. Bory St. Vincent.

Hyalaea Forskali. D'Orbigny.

Hyalaea Pangii. Deshayes.

Hub. Mediterranean. Great Britain?

It is probable that the variety, fig. 6, with white border and appendages, may be the *H. papilionacea* of St. Vincent.

Species 5. (Mus. Brit.)

HYALEA CUMINGII. *Hya. testā trispinosā, pallidā, tenuissimā, iridescenti, nebulosā, vel pallidi succinē, quam H. trispinosa magis oblongā, spinis lateralibus magis approximatis, rostro substrigono, producto.*

CUMING'S HYALEA. Shell three-spined, pale, very thin, iridescent, clouded, or pale amber, more oblong than *Helix trispinosa*, lateral spines more approximated, beak substrigonal, produced.

DESHAYES. MS. Mus. Cuming.

Hyalaea nebulosa. Deshayes (var.)

Hub. —?

Of a more oblong form and lighter texture than *H. trispinosa*, but the difference is not very obvious. There is something in the texture of the pale variety

giving a cloudy iridescence, which may, however, indicate a real specific distinction.

Species 6. (Fig. a, b, Mus. Brit.)

HYALEA GLOBULOSA. *Hya. testā trispinosā, ovali, ventricosā, albā, angustiāsculā, disco ventrali obliquē conico, ad apicem rotundē elevato, spinis lateralibus obtusis, subapproximatis, spinā apicali deflexa, truncatā, perforatā; aperturā angustē semilunari, labro breviter marginato.*

THE GLOBOSE HYALEA. Shell three-spined, ovate, ventricose, white, rather narrow; ventral disc obliquely conical, roundly raised at the apex, lateral spines obtuse, somewhat approximate, apical spine bent downwards, truncated, perforated; aperture narrowly semilunar, outer lip shortly marginated.

RANG. Proc. Zool. Soc.

Hub. —?

Species 7. (Fig. a, b, Mus. Brit.)

HYALEA GIBBOSA. *Hy. testā trispinosā, ovali, ventricosā, albā, angustiāsculā, elongatā, disco ventrali obliquē conico, acuminatim elevatā, ad angulum elevatum rugatā; spinis lateralibus approximatis, spinā centrali elongatā, leviter deflexa.*

THE GIBROUS HYALEA. Shell three-spined, ovate, ventricose, white, rather narrow, elongated; ventral disc obliquely conical, acuminately elevated, wrinkled at the raised angle; lateral spines approximated, central spine elongated, slightly deflected.

RANG. D'Orbigny, Voy. Amér. Mérid.

Hub. —?

This and the preceding species are swelled and raised at the ventral disc, forming an oblique cone, leaning towards the aperture in each case. In *Hyalea globulosa* the apex of the cone is rounded. In *H. gibbosa* it is raised into an acuminated strongly-wrinkled beak.



• 9



• 10



11 a



12 a



12 b



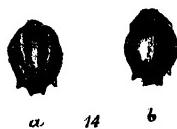
11 b



13 a



13 b



PTEROPODA.

PLATE II.

HYALEA.

Species 8. (Fig. *a, b*, Mus. Sowerby.)

HYALEA OBTUSA. *Hya. testā parvā, tenuissimā, pallidissimā succinēd, hyalinā; disco ventrali brevi, rotundo; spinis lateralibus brevibus, duplicatis, apice centrali truncato, utrinque vix dentato, aperturā trigonā, labro producto.*

THE OBTUSE HYALEA. Shell small, very thin, very pale amber, glassy; ventral disc short, rounded; lateral spines short, double, central apex truncated; just perceptibly dentated on each side; aperture trigonal, outer lip produced.

SOWERBY.

Hab. — ?

The side appendages are smaller, and the bifid denticles more obtuse than in *Hyalina longirostris*, and the central apex broader and more truncated.

Species 9. (Mus. Sowerby.)

HYALEA MINUTA. *Hya. testā minutissimā, globosā, subcinerēd, posticē angustatū, processibus lateralibus minutē unidentatis, apice centrali producto, latē truncato, utrinque minutissimē unidentato; aperturā angustē semilunari; margine simplici, reflexo.*

THE MINUTE HYALEA. Shell very minute, globose, rather ashy, posteriorly narrowed, lateral processes with a minute tooth, central apex produced, broadly truncate, with a single very minute tooth on each side; aperture narrowly semilunar, with a simple reflex margin.

SOWERBY.

Hab. — ?

Species 10. (Mus. Sowerby.)

HYALEA INTERMEDIA. *Hya. testā parvā, latā, albā, pellucidā, posticē subcompressā, quadridentatā, dentibus lateralibus trigonis, acutis, dentibus ad apicem parvis, acuminatis; apice centrali subpro-*

ducto, truncato; aperturā angustā, margine simplici, reflexo.

THE INTERMEDIATE HYALEA. Shell small, broad, white, pellucid, posteriorly rather compressed, with four teeth; lateral teeth trigonal, acute, teeth at the apex small, acuminate; central apex rather produced, truncated; aperture narrow, margin simple, reflected.

SOWERBY.

Hab. — ?

Larger, more compressed at the sides, and less globose than *H. minuta*. Smaller, and more contracted anteriorly than *H. quadridentata*.

Species 11. (Fig. *a, b*, Mus. Brit.)

HYALEA LIMBATA. *Hya. testā pallidē lilacinā vel fusca, trigonā, disco ventrali tumido, tenuiter lirato, apice angustē subtruncato, processibus lateralibus alatis, trigonis, acuminatis, acutē tridentatis; aperturā subtrigonā, labio interno angustē reflexo; labro longē producto, leviter elevato, rostrato; rostro ad terminum bilobato; margine medio subcontracto.*

THE BORDERED HYALINA. Shell pale lilac or brown, trigonal, ventral disc tumid, finely ridged, apex narrowly rather truncated, lateral processes winged, trigonal, acuminate, sharply tridentate; aperture subtrigonal; inner lip narrowly reflected; outer lip much produced, slightly elevated, beaked, slightly contracted in the middle.

D'ORBIGNY. Voy. Amér. Mérid. Pl. VI. f. 11, 15.

Hab. Atlantic Ocean.

Species 12. (Fig. *a, b*, Mus. Brit.)

HYALEA LONGIROSTRIS. *Hya. testā fusca, vel alba, versus aperturam fusco suffusa, disco ventrali tumido, rotundo, tenuiter lirato, apice angustē subtruncato, processibus lateralibus alatis, trigonis, bidentatis; aperturā subtrigonā, labio interno*

PTEROPODA.—PLATE II.

angustè reflexo, labro longè producto, validè elevato, rostrato, rostro ad terminum bilobato; margine medio coarctato.

THE LONG-BEAKED HYALEA. Shell brown, or white, suffused with brown towards the aperture; ventral disc tumid, rounded, finely-ridged, apex narrowly subtruncated, lateral processes winged, trigonal, bidentate; aperture subtrigonal; inner lip narrowly reflected, outer lip much produced, strongly raised, beaked; beak two-lobed at the end; margin strongly contracted in the middle.

LESUEUR. D'Orbigny, Voy. Amér. Mérid. Pl. VI. f. 12.

Hab. Atlantic Ocean.

It is with some hesitation that the writer adopts D'Orbigny's distinction between this and the preceding species. The rostrum seems to be more distinctly contracted at the base, and more suddenly upturned in *H. longirostris* than in *H. limbata*, while the lateral alæ are more spread and acuminate produced in the latter species, giving the shell altogether a more triangular appearance.

Species 13. (Fig. a, b, Mus. —? Copied.)

HYALEA LAVIGATA. *Hya. testâ discoidea, compressâ, minutâ, albâ; processibus lateralibus cuneatis, apice*

producto, acutè uncinato; aperturâ ad processus continuatâ, labiis subæqualibus.

THE SMOOTH HYALEA. Shell discoidal, compressed, minute, white; lateral processes cornered, apex produced, sharply hooked; aperture continued to the processes, lips nearly equal.

D'ORBIGNY. Voy. Amér. Mérid. Pl. VII. f. 15-19.

Hab. —?

A flat white species of *Hyalaea* (?) very simple in form.

Species 14. (Fig. a, b, Mus. Brit.)

HYALEA QUADRIDENTATA. *Hya. testâ succinæ, ab longâ, tumida, posticè subangustata, processibus lateralibus acutè unidentatis, apice producto, angusto, ad terminum rotundo, utrinque propter terminum unidentato, aperturâ angustâ, semilunari, margine simplici, reflexo.*

THE FOUR-TOOTHED HYALEA. Shell amber, oblong, tumid, posteriorly rather narrowed, lateral processes sharply unidentate, apex produced, narrow; rounded at the end, narrow, with a tooth at each side near the end; aperture narrow, semilunar, margin simple, reflected.

LESUEUR. D'Orbigny, Voy. Amér. Mérid. Pl. V. f.

11-15.

Hab. —?



15.a.



20.a.



21.a



15.b.



17



18.



16.a



16.b.



20.b



19.a.



19.b.



21.b.

PTEROPODA.

PLATE III.

HYALEA. DIACRIA. ATLANTA.

Species 15. (Fig. a, b, Mus. Brit.)

HYALEA (Diacria) **TRISPINOSA**. *Hya. testū compressā, tenuissimā, albā, fusco in partibus suffusā, obliquē subquadratā, trispinosā; spinis lateribus brevibus, acutis, utrinque ad angulum dispositis; spinā apicali elongatā, attenuatā, acuminatā; disco ventrali convexo, disco dorsali transversē lirato, trilobato; aperturā angustā, marginibus subreflexis.*

THE THREE-SPINED HYALEA. Shell compressed, very thin, white, suffused with brown in parts, oblique, rather square, three spined; lateral spines short, sharp, placed at the angle on each side, apical spine elongated, attenuated, acuminate; ventral disc convex, dorsal disc transversely ridged, trilobate; aperture narrow, margins somewhat reflected.

LESSEUR. D'Orbigny, Voy. Amér. Mérid. Pl. VII. f. 1-5.

Hab. Atlantic Ocean.

Species 16. (Fig. a, b, Mus. Brit.)

HYALEA (Diacria) **MUCRONATA**. *Hya. testū latā, compressā, albā, fusco prope aperturam pectā, latè subquadratā, trispinosa; spinis lateribus remotis, alatis, depressis, spinā apicali latiūculā, breviūsculā; disco ventrali ferè levigato, disco dorsali lobato, validè rugato; aperturā angustā, labiis reflexis, fuscis, angustis.*

THE SHARP-POINTED HYALEA. Shell broad, compressed, white, painted with brown near the aperture, broadly subquadrate, three-spined; lateral spines remote, winged, depressed; apical spine rather wide, rather short, frequently truncated; ventral disc nearly smooth, dorsal disc lobed, strongly wrinkled; aperture narrow, lips reflected, brown, narrow.

LESSEUR. D'Orbigny, Voy. Amér. Mérid. Pl. VII. f. 6-10.

Hab. Atlantic Ocean.

With broader disc and wider ale than in *Hyalea trispinosa*. The apical spine is also broader and shorter.

Species 17. (Fig. a, b, Mus. Sowerby.)

HYALEA INFLEXA (Diacria). *Hya. testū parcā, albā, subtrigonā, trispinosa, spinis lateribus elevatis, brevibus; spinā apicali productā, uncinatā; aperturā usque ad spinas laterales incisā, latiūculā, labio interno reflexo, labro producto, margine lobato.*

THE INBENT HYALEA. Shell small, white, subtrigonal, three-spined; lateral spines raised, short; apical spine produced, hooked; aperture slit as far as the lateral spines, rather broad; inner lip reflected, outer lip produced, margin lobed.

LESSEUR. D'Orbigny, Voy. Amér. Mérid. Pl. IX. f. 16-20.

Hab. Atlantic Ocean.

Species 18. (Fig. a, b, Mus. Brit.)

HYALEA LABIATA (Diacria). *Hya. testū albā, elongato-subtrigonā, trispinosa, subcompressā; disco dorsali anticè producto, angustè rostrato, medio angulato; disco ventrali convexo, levigato, spinis lateribus retrorsis, acutis, spinā apicali breviūsculā, deflexi, uncinatā; aperturā trigonā, labro producto, angulato, labio interno elevatum reflexo.*

THE LIPPED HYALEA. Shell white, elongated, subtrigonal, three-spined, subcompressed; dorsal disc produced anteriorly, narrowly beaked, with a central angle; ventral disc convex, smooth, lateral spines turned backwards, sharp, apical spine rather short, bent downwards, hooked; aperture three-cornered, outer lip produced, angular, inner lip raised or reflected.

D'ORBIGNY. Voy. Amér. Mérid. Pl. VI. f. 21-25.

Hab. Atlantic Ocean.

Species 19. (Fig. a, b, Mus.—? Copied.)

HYALEA DEPRESSA (Diacria). *Hya. testū minutā, albā, subtrigonā, compressā, processibus lateribus ad rimam aperturæ projectis; aperturā profundè semilunari, simpliō; labro producto, labio interno leviter elevato, apice longè producto ad terminum acuminato, uncinato.*

PTEROPODA.—PLATE III.

THE DEPRESSED HYALEA. Shell minute, white, sub-trigonal; compressed; lateral processes projected to the slit of the mouth; aperture deeply semi-lunar, simple; outer lip produced, inner lip slightly raised; apex much produced, acuminate at the end, and hooked.

D'ORBIGNY. Voy. Amér. Mérid. Pl. VII. f. 11–14.

Hab. —?

Genus ATLANTA, Lesueur.

(*Limacina*, Cuvier.)

Testa nautiliformis, semicartilagineosa, spirâ planorhinalâ, anfractibus partim celatis, ultimo tenuiter carinato. Shell nautilus-shaped, half cartilaginous, spire flat-circular; whorls partly hidden, last with a thin keel.

Species 20. (Fig. a, b, Mus. Brit.)

ATLANTA PERONII. *Atl. testâ compressâ, tenuissimâ, hyalinâ; anfractibus apparentibus acutè angulatis; aperturâ angustâ; margine externo acutissimè angulato; carinâ latâ, tenuissimâ.*

PERON'S ATLANTA. Shell compressed, very thin, hyaline; whorls visible, sharply angular; aperture narrow, its outer edge very acutely angular; keel broad, very thin.

LESIEUR. Les. et Blain. D'Orb. Amér. Mérid.
Hab. Atlantic.

Species 21. (Fig. a, b, Mus. Brit.)

ATLANTA (Oxygyrus) KERANDRENI. *Atl. testâ con-tricosâ, membranaceâ; anfractibus paucis, apicalibus celatis, ultimo, extâ, versus apicem latâ carinato; aperturâ latâ, margine externo rotunda.*

KERANDREN'S ATLANTA. Shell ventricose, membranaceous; whorls few, apical hidden, last towards the aperture outside broadly keeled; aperture broad, outer margin rounded.

RANGE. Adams, Genera, p. 92.

Hab. —?

About 15 or 16 species of Atlanta and Oxygyrus have been described, but we have not the opportunity of presenting more than two representative species.

Pteropoda Pl. IV
(Aeodora Balantium)



22.



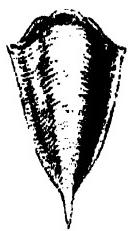
23.a.



23.b.



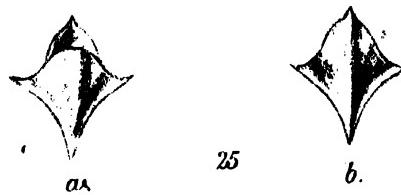
24.



26.a.



26.b.



25

b.

PTEROPODA.

PLATE IV.

Genus CLEODORA. *Péron and Lesueur.*

Testa hyalina, pyramidata, haud lateraliter appendiculata, tricuspidata; aperturâ trigonâ, labro producto, rostrato.

Shell hyaline, pyramidal, without lateral appendages, three-spined; aperture trigonal, outer lip produced, beaked.

Of the few species composing this genus the most exquisitely beautiful is the *Cleodora cuspidata*.

Species 22. (Fig. a, b, Mus. Brit.)

CLEODORA AUSTEALIS. *Cle. testâ angustâ pyramidatâ, trigonâ, dorso lateribusque carinato-angulatis, spinis lateralibus brevibus, versus aperturam elevatis, spinâ apicali acuminatâ, aperturâ trigonâ, disco ventrali concavo.*

THE AUSTRALIAN CLEODORA. Shell narrowly pyramidal, trigonal, back and sides with carinated angles, lateral spines short, raised towards the aperture, apical spine acuminate, aperture trigonal, ventral disc concave.

D'ORBIGNY. Voy. Amer. Mérid. T. VIII. f. 12-14.

Hab. Australia.

Much narrower than *Cleodora pyramidata*, which it otherwise resembles.

Species 23. (Fig. a, b, Mus. Brit.)

CLEODORA CUSPIDATA. *Cle. testâ oblongâ, trigonâ, transversè sinuatim liratâ, lateribus dorsalibus tricornis, carinâ dorsali acutâ, in rostrum productâ, carinis lateralibus brevibus, longispinosis; spinâ apicali acutissimâ, disco ventrali mediâ convexa.*

THE POINTED CLEODORA. Shell oblong, trigonal, transversely sinuously ridged, dorsal sides trigonal, dorsal keel sharp, produced into a beak, lateral keels short, with long spines; apical spine very sharp, ventral disc convex in the middle.

QUOY. Voy. Astro. II. Pl. 27, f. 1-5.

Hab. Atlantic Ocean.

The spines are long, and bend upwards from the inverted apex, rather near which they take their rise.

Species 24. (Mus. --- Copied.)

CLEODORA LOBATA. *Cle. testâ latè pyramidatâ, trigonâ, transversè sinuatim liratâ; spinis lateribus supra medium elevatis sursum acclivibus; labro producto, margine lobato.*

THE LOBED CLEODORA. Shell broadly pyramidal, trigonal, transversely sinuously ridged; lateral spines raised above the centre, sloped upwards; outer lip produced, margin lobed.

SOWERBY.

Hab. Atlantic Ocean.

From the figure in D'Orbigny's work the writer concludes this to be a distinct species, although given as a variety of *Cleodora pyramidata*. It has veritable spines at the sides, which are pointed upwards, and the dorsal surfaces are longitudinally ridged, with correspondingly lobed labial margin.

Species 25. (Fig. a, b, Mus. Sowb.)

CLEODORA PYRAMIDATA. *Cle. testâ latissimè pyramidatâ, trigonâ, levigatâ, facie ventrali ad latera concavâ, medio angustâ tumidâ, carinâ dorsali acutâ, in rostrum acuminatum productâ, angulis lateralibus expensis, acutè subspinosis, medianis, horizontalibus.*

THE PYRAMIDAL CLEODORA. Shell very broadly pyramidal, trigonal, smooth, ventral surface concave at the sides, narrowly tumid in the middle, dorsal keel sharp, produced into an acuminated rostrum; lateral angles expanded, sharply subspinoso, central, horizontal.

QUOY. Voy. de l'Astrolabe, Vol. II. Pl. XXVII. f. 7-13.

Hab. Atlantic Ocean.

PTEROPODA.—PLATE IV.

Genus BALANTIUM. Leach.

Testa triangularis, hyalina, compressa, longitudinaliter undata, apertura angusta, transversa, ad angulos non rimata.

Shell triangular, hyaline, compressed, longitudinally waved, aperture narrow, transverse, not slit at the angles.

This genus does not appear to differ very essentially from *Cleodora*. The angles of the aperture are not slit, and the outer lip is not produced. Several species are enumerated by authors, but with the exception of the one given below they are not known to the present writer.

Species 26. (Fig. *a, b*, Mus. Brit.)

BALANTIUM RECURVUM. *Bal. testa oblongo-triangulari,*

utrinque transverse undulatione lirata, facie dorsaliter longitudinaliter tri-lirata; facie ventrali ad latera concavâ, medio latè tumido; marginibus lateralibus acutè carinatis; spinâ apicali acuti, recurvâ; aperturâ semilunari, marginibus undulatis.

THE RECURVED BALANTIUM. Shell oblong-triangular, transversely wavy ridged across; dorsal surface with three longitudinal ridges; ventral surface concave at the sides, broadly swelled in the middle; lateral margins sharply keeled: apical spine sharp, bent backwards; aperture semi-lunar, with undulating margins.

CHILDREN. Mus. Brit.

Cleodora Balantium. Rang.

Hab. Australia.

Vide notice and figures of several other species of Balantium at Plate VI.



28.



27.



29.



30.



31.



32.



33.



34.



35.



36.



37.



38.

PTEROPODA.

PLATE V.

Genus TRIPTERA. Quoy.

Testa tubulosa, subcompressa, versus apicem leviter bulbiformis, ad apicem carinat circulari cincta; apertura reniformi.

Shell tubular, rather compressed, slightly bulbiform towards the apex, surrounded at the apex with a circular keel; aperture reniform.

Synonym. *Curieria*. Rang.

Species 27. (Mus. Brit.)

TRIPTERA COLUMNELLA. *Tri. testa albâ, semipellucida, versus aperturam subcompressâ, subangustata, apice rotundos.*

THE LITTLE PILLAR TRIPTERA. Shell white, semipellucid, rather compressed and narrowed towards the aperture; apex rounded.

RANG. D'Orbigny, Voy. Amér. Mérid., t. 8, f. 35-39.
Crescis obtusa. Rang.

Hab. —?

The one or two other recorded species are not found in the collections.

Genus CRESEIS. Rang.

Testa elongata, tubularis, pyramidata, spiniformis, hyalina.

Shell elongated, tubular, pyramidal, spine-shaped.

Synonym. *Styliola*. Lesueur.

Species 28. (Fig. a, b, Mus. —? —?)

CRESEIS ROTUNDA. *Cre. testa subrotundâ, latiusculâ, elongatâ, fere rectâ, transversè tenuissimè striatâ; apice attenuato, acuminato, leviter arcuato; apertura rotundâ.*

THE ROUNDED CRESEIS. Shell rather rounded, rather wide, elongated, nearly straight, transversely very finely striated; apex attenuated, acuminate, slightly arched; aperture rounded.

SOWERBY.

Hab. —?

We do not find this species elsewhere described.

Species 29. (Fig. a, b, Mus. Brit.)

CRESEIS ACICULATA. *Cre. testa angustâ, levigatâ, attenuatâ, acuminatâ, dorso angulatâ; apertura subtriangularis, labro producto, unispino.*

THE ACICULATED CRESEIS. Shell narrow, smooth, attenuated, acuminate, angular at the back; aperture rather trigonal, outer lip produced with a spine.

D'ORBIGNY. Tab. VIII., f. 29-31.

Hab. Atlantic Ocean.

Species 30. (Fig. a, b, Mus. Brit.)

CRESEIS STRIATA. *Cre. testa latiusculâ, transversè rugatâ; apertura subrotundâ; apice retrocurvâ leviter arcuato, acuminato.*

THE STRIATED CRESEIS. Shell rather broad, transversely wrinkled; aperture rather round; apex slightly curved backwards, acuminate.

RANG. D'Orbigny, Voy. Amér. Mérid. Pl. VIII. f. 23-25.
Hab. Atlantic Ocean.

Species 31. (Fig. a, b, Mus. Sowerby.)

CRESEIS CORNIFORMIS. *Cre. testa breviæsculâ, rotundâ, levigatâ; apertura rotundâ, apice acuminato, validè recurvo, uncinato.*

THE HORN-SHAPED CRESEIS. Shell rather short, rounded, smooth; aperture rounded, apex acuminate, strongly recurved, hooked.

D'ORBIGNY. Voy. Amér. Mérid. Pl. VIII. f. 21.

Hab. Atlantic Ocean.

Species 32. (Fig. a, b, Mus. —? Copied.)

CRESEIS VIRGULA. *Cre. testa latiusculâ, rotundâ, levigatâ; apertura rotundâ, apice attenuato, acuminato, leviter arcuato.*

THE TWIG CRESEIS. Shell rather broad, rounded, smooth; aperture rounded, apex attenuated, acuminate, slightly arched.

RANG. D'Orbigny, Voy. Amér. Mérid. Pl. VIII. f. 36.
Hab. Atlantic Ocean.

PTEROPODA.—PLATE V.

Species 33. (Fig. *a, b*, Mus. Brit.)

CRESEIS SPINIFERA. *Cre. testā elongatā, levigatā, acuminatā, dorso subspiraliter carinatā; carinā ad aperturam in spinam desinēti; apice valde attenuata.*

THE SPINE-BEARING CRESEIS. Shell elongated, smooth, acuminated, with a subspiral keel at the back; keel ending in a spine at the aperture; apex much attenuated.

RANG. Sowerby, Gener. of Shells. Pteropoda, f. 4.

Cleodora subula. Quoy.

Hab. — ?

In this species and in *Creseis aciculata* the dorsal keel crosses the tube diagonally, so as to indicate a slight tendency to the spiral form.

Genus SPIRALIS. Souleyet.

Testa hyalina, fusiformis, vel heliciformis, sinistralis. Operulum ovalum parvispirale.

Shell glassy, fusiform or heliciform, sinistral. Operculum ovate, few-whorled.

Syn. (Pars.) HETEROFUSUS. Fleming.

Species 34. (Mus. Jeffreys.)

SPIRALIS FLEMINGII. *Spi. testā subheliciformi, albā, ventricosā; spirā conicā, anfractibus quinque, ultimo globoso; aperturā subpyriformi, anticè productā, acuminatā, columellā rectiunculā.*

FLEMING'S SPIRALIS. Shell subheliciform, white, ventricose; spire conical, whorls five, last globose, aperture somewhat pyriform, anteriorly produced, acuminated; columella rather straight.

FORBES. Forbes and Hanley, British Mollusea.

Hab. North British seas.

Species 35. (Mus. Jeffreys.)

SPIRALIS MACANDREI. *Spi. testā fusiformi, albā, levigatā; spirā pyramidatā, elevatā; anfractibus septenis, convexisculis; aperturā pyriformi, an-*

ticè acuminatā; columellā elongatā; leviter tortuosa.

MACANDREW'S SPIRALIS. Shell fusiform, white, smooth, spire pyramidal, raised; whorls seven, rather convex; aperture pyriform, acuminated anteriorly; columella elongated, slightly tortuous.

FORBES and HANLEY. British Mollusea.

Hab. Ireland.

Species 36. (Mus. ——?)

SPIRALIS ROTUNDA. *Spi. testā subdepressā, heliciformi, spirā brevi; anfractibus triuis, ultimo ventricoso, magno, latè umbilicato; aperturā obliquā oratā.*

THE ROUNDED SPIRALIS. Shell subdepressed, heliciform, spire short, whorls three; last ventricose, large, broadly umbilicated; aperture obliquely oval.

D'ORBIGNY. Voy. Amér. Mérid. Moll., Pl. XIII, f. 16.

Hab. Atlantic Ocean.

Species 37. (Mus. ——?)

SPIRALIS JEFFREYSII. *Spi. testā depressā, discoidā, spirā brevissimā, ultimo lato, rotundo, latè umbilicato.*

JEFFREY'S SPIRALIS. Shell depressed, discoidal; spire very short, last broad, rounded, broadly umbilicated.

FORBES and HANLEY. Brit. Moll.

Hab. British Channel.

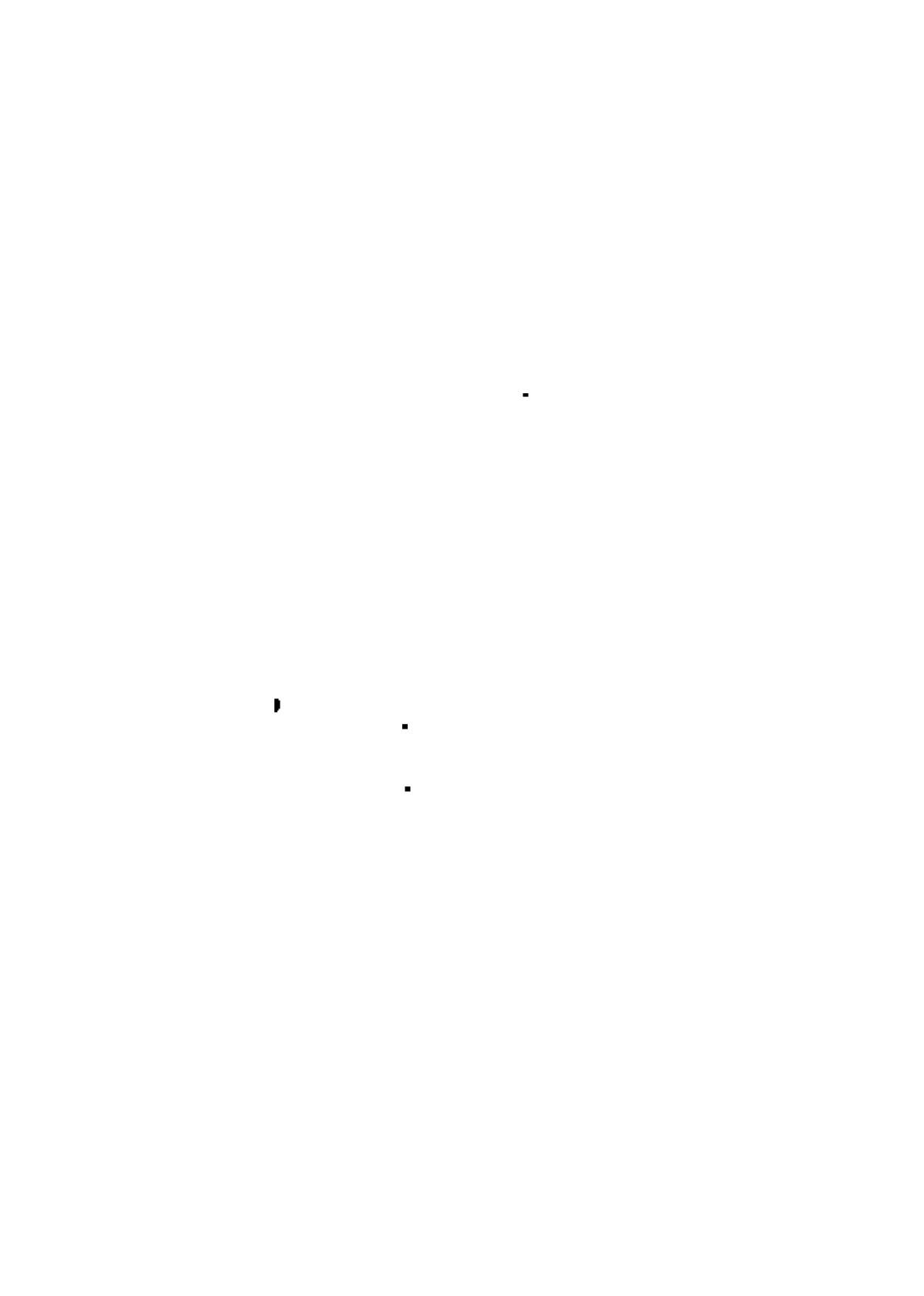
Species 38. (Mus. ——?)

SPIRALIS VENTRICOSA. *Spi. testā globosā, albā, anfractibus quaternis, ultimo maximo, haud umbilicato; aperturā breviter subpyriformi, anticè angulatā; columellā tenuissima.*

THE VENTRICOSE SPIRALIS. Shell globose, white; whorls four, last very large, not umbilicated; aperture shortly rather pyriform; anteriorly angular; columella very thin.

SOULEYET. Voy. de la Bonite. Moll. Pl. XIII. f. 15.

Hab. Atlantic Ocean.



Pteropoda Pl. VI
Spiralis, Limacina
Chelotropis, Balantium



39.



40.



41.



42.



43.



44.



45a.



46.



47.



45b.

PTEROPODA.

PLATE VI.

Species 39. (Mus. Sowerby.)

SPIRALIS AUSTRALIS. *Spi. testū fusiformi, hyalinā, levigatā; spirā clatā, conicā, unfractibus quinīs, ultimo ventricosō; aperturā pyriformi; columella acuminatā, productā; labro medio sinuato.*

THE AUSTRALIAN SPIRALIS. Shell fusiform, hyaline, smooth; spire raised, conical, whorls five, last ventricose; aperture pyriform, columella acuminate, produced; outer lip sinuated in the middle.

SOULEYET. Voy. Bonite. Moll., Pl. XIII.

Hab. Australian seas.

Species 40. (Mus. Brit.)

SPIRALIS ARCTICA. *Spi. testū subdepresso-globosā, spirā porrā, unfractibus trinis, brevissimis, ultimo magno, umbilicata; aperturā magnā, columellā rectā.*

THE ARCTIC SPIRALIS. Shell subdepressed-globose; spire small, whorls three, very short, last large, umbilicated; aperture large, columella straight.

FABRICIUS. (*Limacina*.)

Limacina helicialis. Lamarck.

Hab. Greenland.

The writer scarcely sees any reason for separating the heliciform from the fusiform, sinistral, spiral shells of these Pteropoda.

Species 41. (Mus. — ?)

SPIRALIS CLATHRATUS. *Spi. testū fusiformi, hyalinā, obliquè puncturato-striatā, spirā brevissimā, unfractibus paucis, ultimo inflato; aperturā oblongā; columellā elongatā, tenui, acuminatā.*

THE LATTICED SPIRALIS. Shell fusiform, hyaline, obliquely puncture-striated; spire very short, whorls few, last inflated; aperture oblong, columella elongated, thin, acuminate.

SOULEYET. Ed. et Soul. Voy. Bonite. Moll. Pl. XIII. f. 17.

Hab. Atlantic.

Species 42. (Mus. Brit.)

(*Atlanta*.)

ATLANTA INFELATA. *Alt. testā alba, nautiloidea, ferī symmetricā, unfractibus apicalibus celatis, ultimo umbilicato, extēs subcarinato; aperturi subtriangulari, labro in processu elongato linguiformi desinente; operculo tenuissimo, hyalino.*

THE INFELATED ATLANTA. Shell white, nautilus-shaped, nearly symmetrical; apical whorls hidden; last umbilicated slightly, keeled on the outer side; aperture subtriangular; outer lip terminating in a long tongue-shaped process.

RANG and SOULEYET. Mon. Pterop., Pl. XIV. f. 4.

Heliconides. D'Orbigny.

Hab. — ?

SINUSIGERA.

Genus SINUSIGERA. D'Orbigny.

Testa subglobosa, medio unfractis ultimi sulcata, aperturā subovatā, labro sinuato, reflexo, bilobato. Operculum ignotum.

Shell subglobose, sulcated in the middle of the last whorl; aperture subovate, outer lip sinuated, reflected, bilobed. Operculum unknown.

Synonym. *Chelitropis.* Forbes.

Species 43. (Mus. Brit.)

SINUSIGERA CANCELLOATA. *Sinu. testā subglobosā, obliquè cancellatā; spirā subconicā, unfractibus quinīs, rotundis; aperturā subovatā, labro sinuato, bilobato, validē reflexo; lobis productis, superiori ad terminum expansā, divisiā.*

THE CANCELLED SINUSIGERA. Shell subglobose, obliquely cancellated, spire rather conical; whorls five, rounded; aperture subovate, outer lip sinuated, bilobed, strongly reflected; lobes produced, upper expanded, divided at the end.

D'ORBIGNY. Adams. Genera, Plate CXXXVII. f. 4.

Hab. — ?

PTEROPODA.—PLATE VI.

Species 44. (Mus. Sowerby.)

SINUSIGERA MICROSCOPICA. *Sinu. testā subglobosā, spiruliter striatā; spirā brevi, subconicā; anfractibus quinque, rotundis, ultimo magno; aperturā subrotundā, columellā tenui, acutā, rectiūsculā, labro bilobato, lobis moderatè productis.*

THE MICROSCOPIC SINUSIGERA. Shell subglobose, spirally striated, spire short, subconical; whorls five, rounded, last large; aperture rather rounded, columella thin, sharp, rather straight, outer lip two-lobed; lobes moderately produced.

GRAY. (*Struthiolaria*). Voyage of the Blossom.

Chelitropis Hanleyi. Forbes.

Hab. Atlantic Ocean.

The principal difference between this and the previous species is that the former is striated spirally only, and the latter is cancellated.

Genus BALANTIUM (*continued*).

Species 45. (Fig. *a, b*, Mus. ——?) *

BALANTIUM INFLATUM. *Bal. testā utrinquè convexa, trigonā, versus apicem decurvā, ferè uncinatā; facie dorsali radiatim leviter sulcatā; aperturā latā, labro leviter lobato.*

THE INFLATED BALANTIUM. Shell convex on each side, trigonal, vent downwards towards the apex,

almost hooked; dorsal surface radiately slightly grooved; aperture broad, outer lip slightly lobed.

EYDOUN et SOULEYET. Voy. de la Bonite.
Hab. ——?

Species 46. (Mus. ——?) *

BALANTUM AUSTRALE. *Bal. testā angustā, versus terminalē attenuatā, ad latera convexiūsculā; aperturā subtrigonā, labro acuminato; apice in spiculum mamillatum producto.*

THE AUSTRALIAN BALANTUM. Shell narrow, attenuated towards the end; rather convex at the sides; aperture subtrigonal, outer lip acuminated; apex produced into a mammillated spike.

D'ORRIGNY. Voy. Amér. Mérid.

Hab. ——?

Species 47. (Mus. ——?) *

BALANTUM CHAPTALII. *Bal. testā trigonā, compressā, transversè sulcatā, ad latera submarginatā: angulis lateralibus acutis; apice attenuato, acuminato.*

CHAPTAL'S BALANTUM. Shell trigonal, compressed, transversely grooved, slightly bordered at the sides; apex attenuated, acuminated.

EYDOUN et SOULEYET. Voy. de la Bonite.

Hab. ——?

* The above three specimens of Balantium are not known in the principal collections, but are copied in order to make the interesting little genus as nearly complete as possible.

P T E R O P O D A.

	Plate.	Species.		Plate.	Species.
aciculata, <i>D'Orbigny</i> . Cre.....	V.	29	laevigata, <i>D'Orbigny</i> . Hy.....	II.	13
allinis, <i>D'Orbigny</i> . Hy.....	I.	3	limbata, <i>D'Orbigny</i> . Hy.....	II.	11
arctica, <i>Fabricius</i> . Spi.....	VI.	40	lobata, <i>Sowerby</i> . Cleo.....	IV.	24
Australis, <i>D'Orbigny</i> . Bal.....	VI.	46	longirostris, <i>Lesueur</i> . Hy.....	II.	12
Australis, <i>D'Orbigny</i> . Cleo.....	IV.	22	Macandrei, <i>Forbes</i> . Spi.....	V.	35
Australis, <i>Souleyet</i> . Spi.....	VI.	39	microscopica, <i>Gray</i> . Lin.....	VI.	44
Balantinum, <i>Rang</i> . Bal.....	IV.	26	minuta, <i>Sowerby</i> . Hy.....	II.	9
cancellata, <i>D'Orbigny</i> . Sin.....	VI.	43	mucronata, <i>Lesueur</i> . Dia.....	III.	16
Chaptalii, <i>Eydoux</i> . Bal.....	VI.	47	nebulosa, <i>Deshayes</i> . Hy.....	I.	5
clathratus, <i>Souleyet</i> . Spi.....	VI.	41	obtusa, <i>Rang</i>	V.	27
columnella, <i>Rang</i> . Trip.....	V.	27	obtusa, <i>Sowerby</i> . Hy.....	II.	8
corniformis, <i>D'Orbigny</i> . Cre.....	V.	31	papilionacea, <i>Vincent</i> . Hy.....	I.	4
Cumingii, <i>Deshayes</i> . Hy.....	I.	5	Peronii, <i>Lesueur</i> . Atl.....	III.	20
enspidata, <i>Quoy</i> . Cleo.....	IV.	23	pyramidalata, <i>Quoy</i> . Cleo.....	IV.	25
depressa, <i>D'Orbigny</i> . Dia.....	III.	19	quadridentata, <i>Lesueur</i> . Dia.....	II.	14
flava, <i>D'Orbigny</i> . Hy.....	I.	2	Rangii, <i>Deshayes</i> . Hy.....	I.	4
Flemingii, <i>Forbes</i> . Spi.....	V.	34	recurvum, <i>Children</i> . Bal.....	IV.	26
Forskali, <i>D'Orbigny</i> . Hy.....	I.	4	rotunda, <i>D'Orbigny</i> . Spi.....	V.	36
gibbosa, <i>Rang</i> . Hy.....	I.	7	rotunda, <i>Sowerby</i> . Cre.....	V.	28
globulosa, <i>Rang</i> . Hy.....	I.	6	spinifera, <i>Rang</i> . Cre.....	V.	33
infata, <i>Rang</i> . Atl.....	VI.	42	striata, <i>Rang</i> . Cre.....	V.	30
inflatum, <i>Eydoux</i> . Bal.....	VI.	45	subula, <i>Quoy</i> . Cre.....	V.	33
inflexa, <i>Lesueur</i> . Dia.....	III.	17	tridentata, <i>D'Orbigny</i> . Hy.....	I.	4
intermedia, <i>Sowerby</i> . Hy.....	II.	10	trispinosa, <i>Lesueur</i> . Dia.....	III.	15
Jeffreysii, <i>Forbes</i> and <i>Hanley</i> . Spi....	V.	37	uncinata, <i>D'Orbigny</i> . Hy.....	I.	1
Kerandremi, <i>Rang</i> . Atl.....	III.	21	ventricosa, <i>Souleyet</i> . Spi.....	V.	38
labiata, <i>D'Orbigny</i> . Dia.....	III.	18	virgula, <i>Rang</i> . Cre.....	V.	32

MONOGRAPH
OF THE GENUS
A N C Y L U S.

All Thy works before Thee stood,
And Thine eye beheld them good,
While they sang with one accord,
Holy, holy, holy Lord.—*James Montgomery.*

0

Andryus Pl. I



ANCYLUS.

PLATE I.

Genus ANCYLUS. *Geoffroy.*

MOLLUSCUM AQUATICUM. *Testa patelliformis, plerūque sinistralis, nonsymmetrica, epidermide induita, apice sublaterali, subspiralis; operculum nullum.*

MOLLUSC, FRESHWATER. Shell patelliform, generally sinistral, non-symmetrical, covered with an epidermis, apex sublateral, subspiral; operculum, none.

Like the Limnæadæ, the Ancyli are found in ponds and rivers of fresh water, and like them are capable of living at times uncovered by water. They are found in all climates. We have two well-known British species. Others exist eastward in India and westward in the United States; southwards, we have Brazilian and Peruvian species, and the first and finest species on our list, *A. Cumingianus*, dates from Van Diemen's Land.

Species 1. (Fig. a, b, c, Mus. Sowb.)

ANCYLUS CUMINGIANUS. *Anc. testâ profundè calyciformi, subovatâ, posticâ angustâ, anticâ ampliâ, epidermide olivaceo induitâ; dorso elevato, rotundo, radiatim costato, apice posticâ submarginali, lateraliter valde producto, unispirali.*

CUMING'S ANCYLUS. Shell deeply cup-shaped, sub-ovate, narrow behind, full in front, covered with an olive epidermis; back elevated, rounded, radiately ribbed, apex posteriorly submarginal, laterally much produced, unispiral.

BOURGNIGNAT. Proc. Zool. Soc. 1853. Pl. XX. f. 1-9.

Hab. Van Diemen's Land.

Species 2. (Fig. a, b, Mus. Brit.)

ANCYLUS TEXTILIS. *Anc. testâ depressâ, epidermide stramineâ, ad marginem brunnescens induitâ, radiatim costatâ, concentricâ tenuissimâ striatâ, intus castaneâ; dorso depresso, apice obtuso, sublaterali.*

THE TEXTILE ANCYLUS. Shell depressed, covered with a straw-coloured epidermis, becoming brown at the margin, radiately ribbed, concentrically very finely striated; back depressed, apex obtuse, sublateral.

GUPPY. Proc. Zool. Soc. 1870. Pl. XVII. f. 9-11.
Hab. Trinidad.

Species 3. (Fig. a, b, c, d, Mus. Brit.)

ANCYLUS FLUVIATILIS. *Anc. testâ oculo-subrotundâ, tenui, pallide stramineâ, vel curvata, subconica, dorso declivi; apice posticâ submarginali, subcentrali.*

THE RIVER ANCYLUS. Shell ovate, rather round, thin, pale straw or blueish, subconical, back sloped; apex posteriorly submarginal, subcentral.

GMELIN. Linn. Syst. Nat.

Patella rostrata. D'Argenville.

Patella cornuta. Poiret.

Patella meridionalis. Beck.

Ancylus simplex. Bourguignat.

Hab. Great Britain, and Europe generally.

Species 4. (Fig. a, b, Mus. Brit.)

ANCYLUS LACUSTRIS. *Anc. testâ subovatâ, elongatâ, tenui, lateraliter subcompressâ, anticâ subattenuatâ, epidermide fusco induitâ; dorso tenuissime radiatim striatâ; apice postero-laterali.*

THE LAKE ANCYLUS. Shell subovate, elongated, thin, laterally rather compressed, anteriorly sub-attenuated, covered with a brown epidermis; back very finely radiately striated; apex postero-lateral.

LINNAEUS (Patella). Syst. Nat.

Patella oblonga. Dillwyn.

Hab. Great Britain, and Europe generally.

Species 5. (Mus. Brit.)

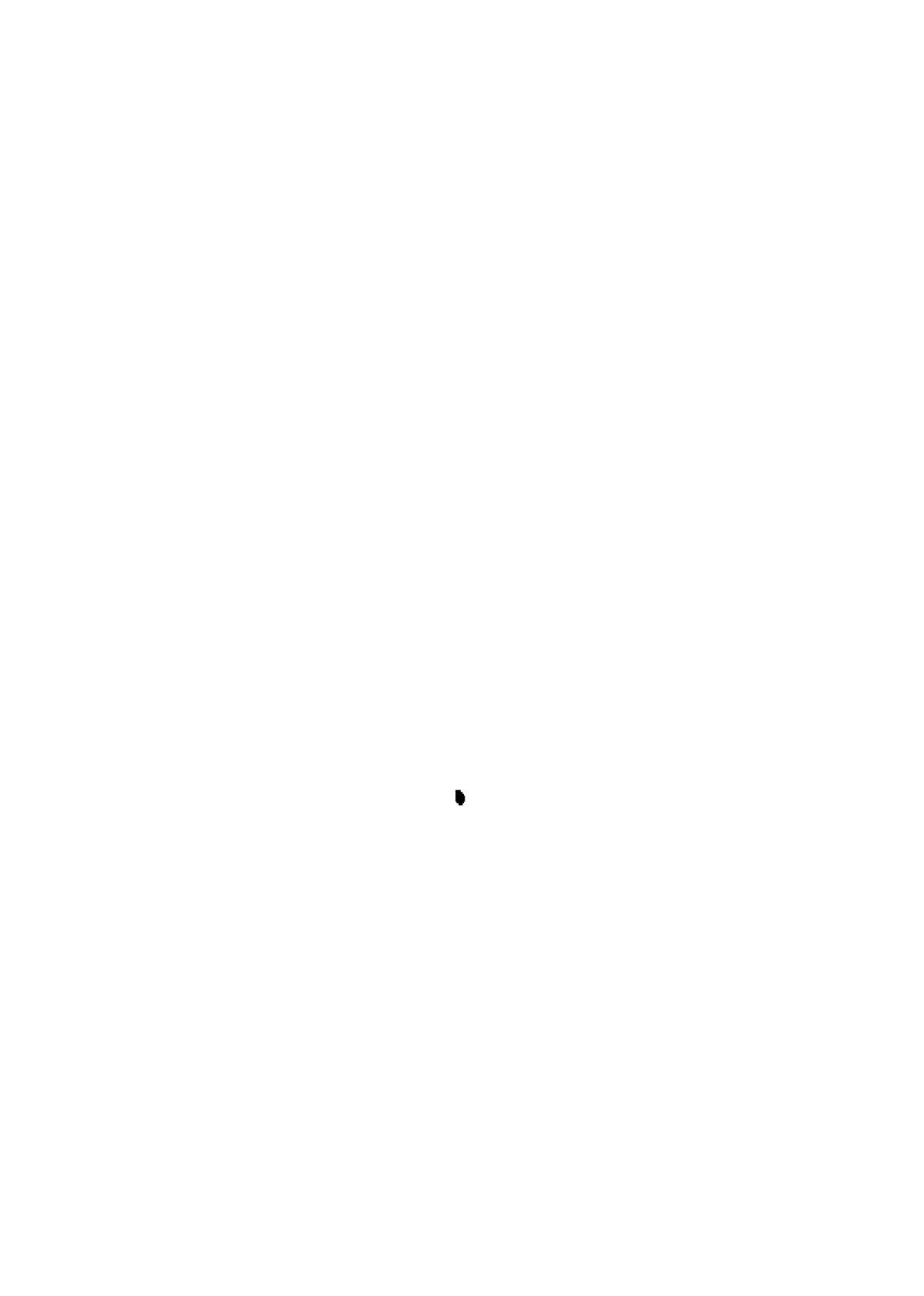
ANCYLUS CAFFRA. *Anc. testâ sublivido-cornuta, regulariter ovatâ, profundè calyciformi, lacerigata; dorso elevato, arcuato; apice postero-sublaterali, acuminato.*

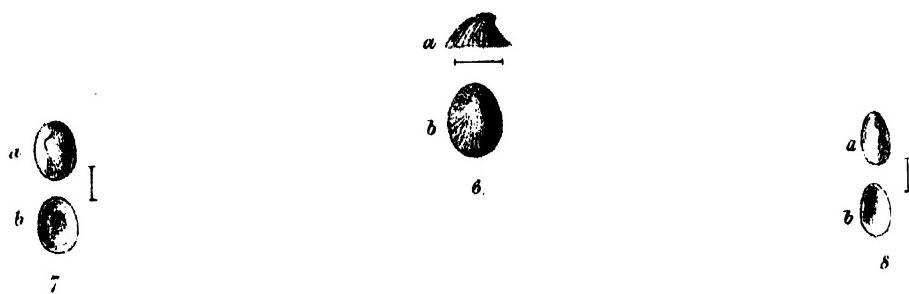
THE CAFFER ANCYLUS. Shell sublive-horny, regularly oval, deeply cup-shaped, smooth; back raised, arched; apex posteriorly sublateral, acuminate.

KRAUSS. Südafrikanischen Mollusken, T. IV. Pl. XIII.

Hab. South Africa.

This has a much more pointed apex than *Ancylus Cumingianus*, which is the only other species with so rounded a back.





ANCYLIUS.

PLATE II.

Species 6. (Fig. a, b, Mus. Brit.)

ANCYLUS JANII. *Anc. testū ovatā, subconicā, albatā, tenuiter radiatim liratā, antice angustiori; apice acuminato, posticē submarginali, lateraliter subcentrali.*

JANUS'S ANCYLIUS. Shell ovate, somewhat conical, white, finely radiately ridged; anteriorly narrower, acuminate, posteriorly submarginal, laterally subcentral.

BOURGUIGNAT. Proc. Zool. Soc. 1853, p. 83.
Hab. Italy.

Species 7. (Fig. a, b, Mus. Brit.)

ANCYLUS DIAPHANUS. *Anc. testā subdepressā, ovatā, pallidē fulvā, semi-pellucidā, levigatā; apice obtuso, lateraliter submarginali, posticē paulo-postmedianō.*

THE TRANSPARENT ANCYLIUS. Shell rather depressed, ovate, pale fulvous, semi-pellucid, smooth; apex obtuse, laterally submarginal, posteriorly a little post-median.

HALDEMAN. New Freshwater Shells.
Hab. Ohio.

Species 8. (Fig. a, b, Mus. Brit.)

ANCYLUS BACONI. *Anc. testā parvā, ovato-oblongā, depressā, transluciddā, nitenti, pallidē succineā; apice obtuso, lateraliter submarginali, posticē longè postmedianō.*

BACON'S ANCYLIUS. Shell small, ovate-oblong, depressed, translucent, shining, pale amber; apex obtuse, laterally submarginal, posteriorly far behind the centre.

BOURGUIGNAT. Proc. Zool. Soc. 1853, p. 89.
Hab. Bengal.

Species 9. (Fig. a, b, Mus. Brit.)

ANCYLUS VITRACEUS. *Anc. testā latā, depresso, rotundā, diaphanā, pallidē fulvā, prope marginem cornēā, fasciis nigrescentibus variegatis; apice obtuso, versus marginem postero-lateralem declivi.*

THE GLASSY ANCYLIUS. Shell broad, depressed, rounded, transparent, pale fulvous, horny near the margin, variegated with blackish bands; apex obtuse, sloped towards the postero-lateral margin.

MORELET. Proc. Zool. Soc. 1853, p. 88.
Hab. Portugal.

Species 10. (Fig. a, b, Mus. Brit.)

ANCYLUS SPINA-ROSE. *Anc. testā dextrali, pallidē fulvā, levigatā, profundi calyculatā, ovatā, dorso arcuato, elevato, apice uncinato, posticē et lateraliter submarginali.*

THE ROSE-THORN ANCYLIUS. Shell dextral, pale fulvous, smooth, deeply cup-shaped, ovate, back arched, raised; apex hooked, posteriorly and laterally submarginal.

DRAPARNAUD. Hist. Moll. Pl. XIII. f. 10-12.

Ancylus deperditus. Zeigler.

Ancylus gibbosus. Bourguignat.

Hab. Germany.

Species 11. (Mus. Brit.)

ANCYLUS DROUETIANUS. *Anc. testā conicā, subviridi, levigatā, radiatim leviter sulcatā, ovatā, posticē angustiori, anticē amplā, margine leviter undulatā, apice acuminato, posticē submarginali, lateraliter subcentrali.*

DROUET'S ANCYLIUS. Shell conical, greenish, smooth, radiately slightly grooved, ovate, narrow posteriorly, full anteriorly, margin slightly undulating; apex acuminate, posteriorly submarginal, laterally subcentral.

BOURGUIGNAT. Proc. Zool. Soc. 1853, Pl. XX. f. 18-25.

Hab. Teneriffe.

Species 12. (Fig. a, b, Mus. Brit.)

ANCYLUS DESHAYESIANUS. *Anc. testā conicā, breviter ovatā, tenui, pallidē cornēā, opacā, levigatā, intus*

ANCYCLUS.—PLATE II.

albâ, anticè expansâ; apice valde retrorso, acuminato, elevato, lateraliter subcentrali; dorso declivi.

DESHAYES'S ANCYCLUS. Shell conical, shortly ovate, thin pale horn, opaque, smooth, white within, anteriorly expanded; apex much thrown backwards, acuminate, elevated, laterally subcentral; back sloped.

BOURGUIGNAT. Cat. esp. Journ. Conch.
Hab. Europe.

Species 13. (Fig. a, b, Mus. Brit.)

ANCYCLUS RUPICOLA. *Anc. testâ ovatâ, dextrali, profundè calycoformi, cornicâ, lavigatâ, pellucidâ, dorso arcuato, apice subacuminato, ultra marginem postico-lateralem producto.*

THE ROCK-INHABITING ANCYCLUS. Shell ovate, dextral, deeply cup-shaped, horny, smooth, pellucid, back arched; apex slightly acuminate, produced beyond the postero-lateral margin.

SHUTTLEWORTH. — ?
Hab. Teneriffe (on moist rocks).

Species 14. (Fig. a, b, Mus. Brit.)

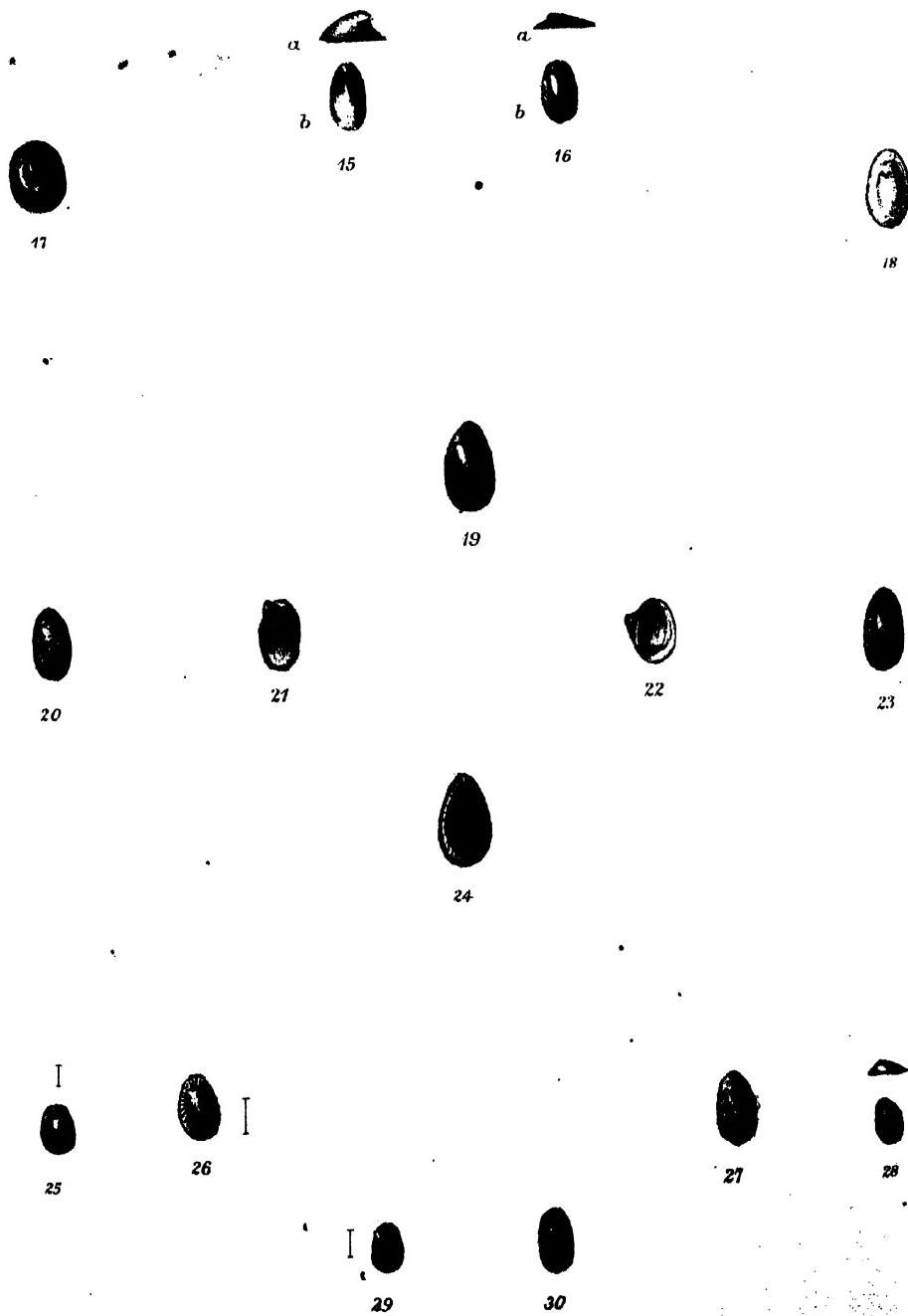
ANCYCLUS SOULCYANUS. *Anc. testâ depressâ, patulâ, cofféâ, costellis crebris radiatis et striis minutissimis concentricis sculptâ, posticè angustâ, anticè expansâ, marginâ dextrali rectiunculo; dorso obliquè declivi, apice depresso, posticè extra-marginali.*

SOULCY'S ANCYCLUS. Shell depressed, patulous, coffee-coloured; sculptured with radiating very minute concentric striae, posteriorly narrow, anteriorly expanded, dextral margin rather straight; back obliquely sloped; apex depressed, posteriorly extra-marginal.

BOURGUIGNAT. Proc. Zool. Soc. 1853, Pl. XX. f. 26-33.

Hab. Venezuela.

A very oblique, sculptured species, with the small apex close to the margin and appearing beyond it.



ANCYLUS.

PLATE III.

Species 15. (Fig. a, b, Mus. Brit.)

ANCYLUS STRICTUS. *Anc. testā obscurè fuscā, conicā, angustā, elongatā, levigatā, lateribus compressis, intūs cæruleo-roseā, dorso elevatā, apice arcuato, longè post-mediano.*

THE NARROWED ANCYLUS. Shell dull brown, conical, narrow, elongated, smooth, with compressed sides, inside blueish pink, back elevated, apex arched, placed far backwards.

MOORE — ? MS. Mus. Brit.

Hab. — ?

Species 16. (Fig. a, b, Mus. Brit.)

ANCYLUS BARILENSIS. *Anc. testā depressā, oblongā, angustā, castaneā, levigatā, intūs vinosā; dorso declivi; apice acuminato, posticē et lateraliter submarginali.*

BARILIS ANCYLUS. Shell depressed, oblong, narrow, chestnut, smooth, vinous within; back sloped; apex acuminated, posteriorly and laterally submarginal.

MORICAND. Coq. Ter. et Fluv. Bahia.

Hab. Brazil.

Species 17. (Mus. Brit.)

ANCYLUS KOOTANENSIS. *Anc. testā brepi, latā, subrotundā, depressā, corneo-rubescēti; apice obtuso, subcentrali, frequenter nigrescenti.*

THE KOOTAN ANCYLUS. Shell short, broad, rather round, depressed, reddish horn; apex obtuse, subcentral, often black.

BARD. Proc. Zool. Soc. 1863, p. 69.

Hab. River Oregon.

Species 18. (Mus. Brit.)

ANCYLUS PARALLELUS. *Anc. testā compressā, oblongā, subrectilateralis, translucida, pallidissimè corneā; dorso declivi, apice posticē et lateraliter subcentrali.*

THE PARALLEL ANCYLUS. Shell compressed, oblong, rather straight-sided, transparent, very pale horn; back sloped, apex posteriorly and laterally subcentral.

HALDEMAN. Mon. Freshwater. Sh. Proc. Zool. Soc. 1853, 84.

Hab. New Orleans.

Species 19. (Mus. Brit.)

ANCYLUS CONCENTRICUS. *Anc. testā olivaceo-cornēd, subconicā, sulcis inconspicuis undulatis radiatā, concentricē linearib; oblongā, posticē angustatā; antīcē subexpanso; dorso versus apicem elevato; apice acuminato, uncinato, ad marginem postico-lateralē approximato.*

THE CONCENTRIC ANCYLUS. Shell olive-horn, rather conical, rayed with indistinct undulating grooves, with concentric lines, oblong, posteriorly narrowed, anteriorly subexpanded; back raised towards apex; apex acuminated, hooked, approaching the postero-lateral margin.

D'ORBIGNY. Voy. Amér. Mérid. t. v. p. 354.

Hab. Montevideo.

Species 20. (Mus. Brit.)

ANCYLUS IRRORATUS. *Anc. testā elongatā, angustā, compressā, punctulis nigrescentibus aspersā, laterē dextrali rectilisculo; apice sublaterali, a marginē postico subremoto.*

THE SPRINKLED ANCYLUS. Shell elongated, narrow, compressed, sprinkled with little blackish spots, left side rather straight; apex rather lateral, rather remote from the posterior margin.

GULDING. Proc. Zool. Soc. 1853.

Hab. Antilles.

Species 21. (Mus. Brit.)

ANCYLUS CHITTYI. *Anc. testā griseo-fusca, obliqua, profundè calyculatā, saboratā, antīcē subacuminata; dorso obliquè arcuato; apice gibboso, extra marginem postico-lateralē producto.*

CHITTY'S ANCYLUS. Shell grey-brown, oblique, deeply cup-shaped, subovate, anteriorly subacuminated; back obliquely arched, apex gibbous, produced beyond the postero-lateral margin.

ADAMS. (C. B.) — ?

Hab. Jamaica.

Species 22. (Mus. Brit.)

ANCYLUS SIBIRICUS. *Anc. testā dextrali, obliquè conicā, fulvā, ovatā, intūs albā; dorso alto, obliqua, apice extra-marginali, obtusilisculo.*

THE SIBIR ANCYLUS. Shell dextral, obliquely conical, fulvous, ovate, white within; back high, oblique, apex extra-marginal, rather obtuse.

GERSFELDT. Moll. Sibir. et Amur.

Hab. Sibir.

ANCYLUS.—PLATE III.

Species 23. (Mus. Brit.)

ANCYLUS MORICANDI. *Anc. testā angustā, compressā, elongatā, ferruginea, opacā, intūs subroseā; dorso declivī, apice posticē subcentrali, lateraliter submarginali.*

MORICAND'S ANCYLUS. Shell narrow, compressed, elongated, ferruginous, opaque, pinkish inside; back sloped, apex posteriorly subcentral, laterally submarginal.

D'ORBIGNY. Voy. Amér. Mérid. T. V. p. 355.

Ancylus Bahiensis. Moricand.

Ancylus Nasicula. Spix.

Hab. Lake Baril, Bahia.

Species 24. (Mus. Brit.)

ANCYLUS CULICOIDES. *Anc. testā depressā, fulvā, radiatim tenuiter striatā, elongatā, posticē subcontractā, dorso lentē declivī, apice subacuminato, subcentrali.*

THE HOOD-SHAPED ANCYLUS. Shell depressed, fulvous, radiately finely striated, elongated, posteriorly rather narrowed, back gently sloped, apex acuminated, subcentral.

D'ORBIGNY. Amér. Mérid. III. p. 335.

Hab. South America.

Species 25. (Mus. Brit.)

ANCYLUS FILOSUS. *Anc. testā ovalā, conicā, tenuissimè striatā, semi-pellucidā, roseo-fulvā, apice posticē et lateraliter subcentrali.*

THE THREADED ANCYLUS. Shell ovate, conical, very finely striated, semi-pellucid, rose-fulvous, apex posteriorly and laterally subcentral.

CONRAD. New Freshwater Shells. Haldeman's monograph.

Hab. Alabama.

Species 26. (Mus. Brit.)

ANCYLUS RADIATUS. *Anc. testā parvā, albā, translucidā, subconicā, striis tenuissimis radiatā, ovalā, anticē subangustatā, apice versus marginem post-lateralem producto.*

THE RAYED ANCYLUS. Shell small, white, translucent, subconical, rayed with very fine striae, ovate, anteriorly rather narrowed, produced towards the post-lateral margin.

GULDING. Zool. Journ. Vol. III. p. 536.

Hab. St. Vincent.

Species 27. (Mus. Brit.)

ANCYLUS HAVANENSIS. *Anc. testā depressā, longiusculā, posticē subangustatā, cornēd, intūs subroseā; apice obtuso, postice subcentrali, lateraliter submarginali.*

THE HAVANA ANCYLUS. Shell depressed, rather long, posteriorly rather narrow, horny, pinkish within; apex obtuse, posteriorly subcentral, laterally submarginal.

PFEIFFER. Bourg. Proc. Zool. Soc. 1853.

Hab. Cuba.

Species 28. (Mus. Brit.)

ANCYLUS BEANI. *Anc. testā parvā, cornēd, levigatā, nitenti, depressā, ocatā, latere dextrali rectiūsculā; dorso declivī, apice obtuso versus marginem postico-lateralem elevato.*

BEAN'S ANCYLUS. Shell small, horny, smooth, shining, depressed, ovate, right side rather straight; back sloped, apex obtuse, raised towards postero-lateral margin.

BOURGUIGNAT. Proc. Zool. Soc. 1853, p. 81.

Hab. Guadalupe.

Species 29. (Mus. Brit.)

ANCYLUS OBLIQUUS. *Anc. testā parvā fusco-cornēd, obliquā, profundā, subovatā, levigatā, postice paulò attenuatā; apice producto, ad marginem postico-lateralem extenso.*

THE OBLIQUE ANCYLUS. Shell small, brownish horn, oblique, deep, subovate, smooth, posteriorly a little attenuated; apex produced, extended to the posterior-lateral margin.

BRODERIP. Proc. Zool. Soc. 1832, p. 202.

Hab. Chili.

Species 30. (Mus. Brit.)

ANCYLUS FUSCUS. *Anc. testā aureo-fusca, levigatā, oblongā, intūs ferè albā, lateribus subcompressa, rectiūsculis; dorso subelevato, apice obtuso, later-aliter et posticē subcentrali.*

THE BROWN ANCYLUS. Shell golden brown, smooth, oblong, almost white within; sides rather compressed, rather straight; back rather raised, apex obtuse, laterally and posteriorly subcentral.

ADAMS (C. B.). Boston Journ. Nat. Hist. Vol. III., p. 329.

Hab. United States.

MONOGRAPH
OF THE GENUS
A L Y C Æ U S.

Thou art in all things one, in each thing many;
For Thou art infinite in one and all.—*Trench.*





4.



1a.



3.



1b.



8.



4.



7.



9.



ALYCEUS.

PLATE I.

Genus ALYCEUS. Gray.

Testa terestriss, heliciformis; spira conica, suture profunda; ultimus anfractus distortus, medio dorsi tumidus, callo retroverso suturam tegens, post marginem aperturæ contractus. Operculum rotundum cornicum inconspicuum multispirale.

Shell terrestrial, heliciform; spire conical, suture deep; last whorl distorted, tumid at the middle of the back, covering the suture with a retroversal callus, contracted behind the margin of the aperture. Operculum rounded, horny, inconspicuously multispiral.

All the Alycæi browse in eastern pastures. A large numerical proportion of the species find their homes in India proper; but Borneo, Japan, and other eastern lands and islands produce their contingents. The typical species, *Alyceus gibbus*, the first type, belongs to Cochin-China.

The peculiarities which distinguish the Alycæi from other Cyclostomidae are very interesting. At first you have a more or less regular spire of several volutions; then, at the side of the last whorl, farthest removed from the aperture, the spiral tube begins to swell, increasing in volume to about the middle of the back, when it suddenly contracts, throwing back a narrow callus at the suture. Between this contraction and the back edge of the aperture, the tube is always narrow, but with various callosities, mouth rings, or other inequalities till the aperture itself is reached.

Species 1. (Fig. a, b, Mus. Brit.)

ALYCEUS CRENATUS. *Aly. testa conica, subviridi, omnino minutè striata, ultimo anfractu ad dorsum moderatè tumido, tum valde, breviter, contracto, deinde callo magno, obliquo cincto, ante callum sub-expanso; callo retroverso rugoso, albo, inaequali, elongato; apertura margine albo, latè laqueato; operculo lato.*

THE CRENNATED ALYCEUS. Shell conical, greenish, all over minutely striated, last whorl moderately tumid at the back, then strongly, briefly, contracted, afterwards girt with a large, oblique callus, rather expanded in front of the callus; retroversal callus rough, white, unequal, long; aperture white at the margin, broadly fluted; operculum broad.

GODWIN-AUSTIN. Journ. Asi. Soc. Beng. 1871.
Hab. Burail Range, N. Cachar.

The white, oblique 'collar ruff' and the broadly fluted margin of the mouth distinguish this species, which is of small size.

Species 2. (Mus. Brit.)

ALYCEUS DIAGONUS. *Aly. testa minuti, pallide castanea, lata, obliquè spirali; apertura crassi, margine duplice, subcrenulato, umbilico mediocre, tumulo dorsali haud magno.*

THE DIAGONAL ALYCEUS. Shell minute, pale chestnut, smooth, obliquely spiral; aperture thick, with a double rather crenulated margin; umbilicus middle-sized; dorsal swelling not large.

GODWIN-AUSTIN. Journ. Asi. Soc. Bengal. 1871.
Hab. Diyung Valley, N. Cachar.

Species 3. (Mus. Brit.)

ALYCEUS VESTITUS. *Aly. testa conica, pallide castanea, anfractibus ad suturam crenulatis; ultimo ad dorsum moderatè tumescenti; apertura ad anfractum penultimum emarginata; margine albo, crasso, simplici.*

THE INVESTED ALYCEUS. Shell conical, pale chestnut; whorls crenulated at the suture, last moderately swelling at the back; aperture emarginated at the penultimate whorl; margin white, thick, extus declivi.

BLANFORD. Journ. Asi. Soc. Bengal, 1871.

Hab. Aracan Hills.

Species 4. (Mus. Brit.)

ALYCEUS GIBBUS. *Aly. testa conica, fulva; spira breviuscula, apici rubro; ultimo anfractu lateraliter expanso, ad dorsum depresso-gibbosum, prope aperturam angustissimo; callo suturali inconspicuo; apertura rotundata, margine tenuiter duplice; umbilicus brevis.*

THE HUNCHBACK ALYCEUS. Shell conical, fulvous; spire rather short, with red apex; last whorl laterally expanded, depressed-gibbous at the back, very narrow near the aperture; sutural callus inconspicuous; aperture rounded, margin thinly doubled; umbilicus short.

FERRUSSAC.
Hab. Cochin-China.

ALYCAEUS.—PLATE I.

Species 5. (Mus. —? Copied.)

ALYCAEUS MARGARITUS. *Aly. testū subglobosū, albū; anfractibus tribus, rotundis, ultimo post aperturam moderatè (?) contracto, aperturæ margins duplícato; margine interno tenui, producto; margine externo planato, expanso; umbilico parvo.*

THE PEARL ALYCAEUS. Shell subglobose, whitish; whorls three, rounded, last moderately (?) contracted behind the aperture; margin of the aperture double; inner margin thin, produced; outer margin flattened, expanded; umbilicus small.

THEOBALD MSS. Hanley, Conch. Ind: Pl. 95, f. 10.
Hab. Shan provinces.

The second figure in the Indian Conchology (Pl. XCVII., f. 7), given as representing a variety of this species, has every appearance of belonging to another. I have therefore named it *Al. microstoma* in Plate IV.

Species 6. (Mus. —?)

ALYCAEUS PYRAMIDALIS. *Aly. testū majuscūli, pyramidatū, rubro-fuscā, levi; ultimo anfractu lateraliiter expanso, ad dorsum gibboso, subitō contracto, tum breviter continuo, callo suturali inconspicuo elongato; margine aperturæ lato, planato; umbilico angustiusculo.*

THE PYRAMIDAL ALYCAEUS. Shell rather large, pyramidal, red-brown, smooth; last whorl laterally expanded, gibbous at the back, suddenly contracted, then shortly continued, sutural callus inconspicuous, long; margin of the aperture broad, flattened, rather narrow.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII. 225.

Hab. Therabuin Hill, Tennasserim, Burmah.

Much resembling *Alycaeus gibbus*, but more pyramidal.

Species 7. (Mus. Brit.)

ALYCAEUS PUSILLUS. *Aly. testū parvū, albū, depresso, liratū; ultimo anfractu ad latus latè producto, ad dorsum inflato et profundè rugato; ad tumoris terminum leviter coarctato, tum post aperturam subexpanso; callo suturali parvo, brevi, distincto; umbilico lato, margine aperturæ crasso, subrotundo.*

THE DWARF ALYCAEUS. Shell small, white, depressed, ridged; last whorl broadly produced at the side,

inflated and deeply-wrinkled at the back, slightly contracted at the end of the tumour, then a little expanded behind the aperture; sutural callus small, short, distinct; umbilicus broad, margin of the aperture thick, rather round.

GODWIN-AUSTIN. Journ. Asi. Soc. Beng.
Hab. Jawai to Asalu.

Species 8. (Mus. Godwin-Austin.)

ALYCAEUS KHASIACUS. *Aly. testū depresso, fusco-rubescēti, profundè sulcatū, anfractibus quaternis, depressis, apicali rubro, ultimo ad dorsum calī inflato, profundè sulcato, ad terminum tumoris subitō profundè contracto, tum usque ad marginem aperturæ expanso; callo suturali brevi, tenui, conspicuo, umbilico lato, margine aperturæ crasso, subrotundo.*

THE KHASIAN ALYCAEUS. Shell depressed, reddish brown, deeply grooved, whorls four, depressed, apical red, last much inflated at the back, suddenly and deeply contracted at the end of the tumour, then expanded to the margin of the aperture; sutural callus short, thin, conspicuous; umbilicus broad, margin of the aperture thick, rounded.

GODWIN-AUSTIN. Journ. Asi. Soc. Beng. 1871, Vol. XL.

Hab. Khasia and Jaintia Hills.

Species 9. (Mus. Godwin-Austin.)

ALYCAEUS CONICUS. *Aly. testū solidū, subviridi, obtuse conicā, ad suturam crenulatā; anfractibus quinis, apicalibus rubescentibus, ultimo lato, tumore dorsali densè lirato-rugato, ad terminum tumoris breciter angusto, levi; margine aperturæ crassissimo, retrorsum declivi, callo suturali elongato, angusto, rugoso; umbilico maximo.*

THE CONICAL ALYCAEUS. Shell solid, greenish, obtusely conical, crenulated at the suture; whorls five, apical, reddish, last broad, dorsal tumor five, apical, reddish, last broad, dorsal tumor closely wrinkled in ridges, shortly narrow, smooth at the end of the tumor; margin of the aperture very thick, shelving backwards, sutural callus lengthened, narrow, rough; umbilicus, very large.

GODWIN-AUSTIN. Journ. Asi. Soc. Bengal, 1871, Vol. XL
Hab. East of Kopili River, North Cachar.





10.



11.

12.



13.



14 a.



14 b.



15.



16.



18.



17.

ALYCEUS.

PLATE II.

Species 10.

ALYCEUS ANDAMANIAE. *Aly. testā subdepressā, latā concentricā distanter liratā, inter liras spiraliiter striatā, anfractibus trinis, ultimo ad dorsum moderate inflato, post marginem aperturae moderatè contracto, umbilico latissimo; aperturā ad anfractum subemarginatā, margine albo, tenuiter duplucato.*

THE ANDAMAN ALYCEUS. Shell subdepressed, broad, concentrically distantly ridged, spirally striated between the ridges; whorls three, last very broad, moderately inflated at the back, moderately contracted behind the margin of the aperture; umbilicus very broad, aperture rather emarginated at the last whorl; margin white, thinly duplicate.

BENSON. Ann. Nat. Hist. 1861, Ser. 3, Vol. VII.
Hab. Port Blair, Andaman Islands.

Species 11. (Mus. Brit.)

ALYCEUS POLYGONUS. *Aly. testā conicā, fuscā, levigata; anfractibus quaternis prominentibus, supra medium subangulatis, ultimo alto, post aperturam breviter angustissimo; tumori dorsali magno, in marginem contractum concinnum desinenti; callo suturali elevato, longiusculo; umbilico parvo, margine aperturae albo, polygono.*

THE POLYGONAL ALYCEUS. Shell conical, brown, smooth; whorls four, last shortly inflated at the middle of the back, then briefly contracted, sutural callus raised, rather long; umbilicus small, margin of the aperture white, polygonal.

BLANFORD. Journ. Asi. Soc. Beng. 1862.
Hab. —?

Species 12. (Mus. Hanley.)

ALYCEUS CUCULLATUS. *Aly. testā depressā, albida, concentricā regulariter sulcata; anfractibus trinis, ultimo latissimo, ad dorsum breviter tumido, semi-truncato, ante tumorem brevissimè contracto; margine aperturae externo latè expaneo, albo interno,*

longè producto, plicato et laqueato; umbilico latissimo, callo suturali concinno, breviusculo.

THE HOODED ALYCEUS. Shell depressed, white, concentrically regularly grooved; whorls three, last very broad, shortly tumid at the back, half-truncate, very shortly contracted in front of the tumor; external margin of the aperture broadly expanded, white, internal lengthily plaited and fluted; umbilicus very broad; sutural callus neat, rather short.

THEOBALD. Journ. Asi. Soc. Vol. III. p. 51.
Hab. Shan States.

Species 13. (Mus. Brit.)

ALYCEUS URNULA. *Aly. testā albā, altā, levī; anfractibus quaternis prominentibus, supra medium subangulatis, ultimo alto, post aperturam breviter angustissimo; tumori dorsali magno, in marginem contractum concinnum desinenti; callo suturali distincto, breviusculo; umbilico parvo, margine aperturae angusto, rotundo.*

THE URN ALYCEUS. Shell white, high, smooth; whorls four, prominent, rather angular above the middle, last high, shortly very narrow behind the aperture; dorsal tumor large, ending in a contracted neat margin; sutural callus distinct, rather short, umbilicus small, margin of the aperture narrow, round.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. II.
Hab. Darjeeling, Himalaya.

Species 14. (Fig. a, b, Mus. Brit.)

ALYCEUS PLECTOCHEILUS. *Aly. testā minutā, albū, subcompressā, tenuissimè striatā; anfractibus quaternis angustis, ultimo ad dorsum breviter tumido, tum coarctato, deinde callo flexuoso cincto; margine aperturae producto, quinquepliato; callo suturali subelongato; umbilico mediocris.*

THE PLAITED ALYCEUS. Shell minute, white, rather compressed, very finely striated; whorls four, narrow, last with short tumulus at the back, then narrowed, afterwards girt with a flexuous

ALYCEUS.—PLATE II.

callus; margin of the aperture produced, five-plaited; sutural callus rather lengthened; umbilicus middle-sized.

BENSON. Ann. Nat. Hist. Ser. 3, Vol. III. p 180.

Hab. Rangoon Valley.

The margin of the aperture in this interesting little shell is curiously produced and plaited like a frill.

Species 15. (Mus. Brit.)

ALYCEUS AMPHORA. *Aly. testā altā, albidi, lervi, lateraliter subcompressā; anfractibus quinīs, superioribus rubescētibus, brevibus; ultimo alto, ventricoso, supernè subangulato, infrā lateraliter angustato et angulato; ad dorsum valde inflato, tum subito contracto, breviter angustissimo, post aperturam expanso; callo suturali angusto, elongato; umbilico parvo; aperturā latā, reflexā, margine ad anfractū juncturam semi-interrupto.*

THE VASE ALYCEUS. Shell high, whitish, smooth, laterally subcompressed; whorls five, upper rather red; last high, ventricose, somewhat angular above, narrow and angular below, much inflated at the back, then suddenly contracted, very narrow for a short distance, expanded behind the aperture; sutural callus narrow, elongated; umbilicus small; aperture broad, reflected; margin half interrupted at the juncture of the whorl.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII.

Hab. Moulmein and Tennasserim.

Species 16. (Mus. —?)

ALYCEUS SUCCINEUS. *Aly. testā subdepressā, succino-fuscā; anfractibus quaternis regulariter rugatis, ultimo ad dorsum breviter gibboso, tum angustissimō, lervi, medio partis angustae margine albo extanti interrupto; aperturā margine albo, polygono; callo suturali obliquo, albo, conspicuo, breviusculo; umbilico mediocri.*

THE AMBER ALYCEUS. Shell subdepressed, amber-brown; whorls four, regularly wrinkled, last shortly gibbous at the back, then very narrow, smooth, interrupted in the middle of the narrow

part by a thick, outstanding white margin; margin of aperture white, polygonal; sutural callus oblique, white, conspicuous, rather short; umbilicus medium-sized.

BLANFORD. Journ. Asi. Soc. Bengal, 1862, Vol. XXXI.

Hab. Aracan Hills.

Species 17. (Mus. Brit.)

ALYCEUS VULCANI. *Aly. testā fuscā, subdepressā; anfractibus quaternis, regulariter rugatis; ultimo ad dorsum lateraliterque latē tumido, post medium dorsi subito contracto, tum angusto lervi; medio partis angustae callis duobus annularibus interrupto; callo suturali breviusculo, margine aperturā subhexagono.*

VULCAN'S ALYCEUS. Shell brown, subdepressed; whorls four, regularly wrinkled; last broadly tumid at the back and laterally, suddenly contracted past the middle of the back, then narrow, smooth; interrupted in the middle of the narrow part with two annular calli; sutural callus rather short; margin of the aperture nearly hexagonal.

BLANFORD. Journ. Asi. Soc. Bengal, 1863, Vol. XXXII. p. 323.

Hab. Peak of Puppa in Ava.

Species 18. (Mus. —?)

ALYCEUS FEDDENIANUS. *Aly. testā aliā, lervi, fuscā; anfractibus quaternis, tertio inflato, subangulato; ultimo lateraliter subcompresso, alto, triangulato; versus aperturam gradatim angustato; callo suturali elongato, lervi; umbilico latiusculo, marginē aperturā albo, postea planulato.*

THE FEDDEN ALYCEUS. Shell high, smooth, brown; whorls four, third inflated, slightly angular; last laterally subcompressed, high, bisangular; gradually narrowed towards the aperture; sutural callus elongated, smooth; umbilicus rather broad; margin of aperture white, flattened behind.

THEOBALD. Journ. Asi. Soc. Bengal, 1870.

Hab. Shan States, Upper Salwen.



20.



21.



22.



23 a.



24.



25.



26.

27.

ALYCEUS.

PLATE III.

Species 19. (Mus. Brit.)

ALYCEUS MOUHOTI. *Aly. testā flavidā, ventricosā, levi; anfractibus quinis, superioribus pâris, ultimo ventricoso, lateraliter et infrâ ad dorsum inflato; post aperturam breviter angusto, aperture margine expanso, planato; umbilico brerissimo.*

MOCHOT'S ALYCEUS. Shell yellow, ventricose, smooth; whorls five, upper small; last inflated laterally and below at the back, shortly narrowed behind the aperture; margin of the aperture expanded, flattened; umbilicus very short.

ADAMS. Proc. Zool. Soc. 1862, p. 275.
Hab. Isl. Formosa.

Species 20. (Mus. Brit.)

ALYCEUS AVE. *Aly. testā parvâ, depressâ, albâ, regulariter rugatâ; anfractibus angustis, ultimo tumori dorsali magno, subito ad terminum contracto; anfractis parte inter tumorem et apertura marginem breviusculâ, medio inflatâ; callo suturali brevi, distincto; umbilico lato.*

THE AVA ALYCEUS. Shell small, depressed, white, regularly wrinkled; whorls narrow, last with large dorsal tumour, suddenly contracted at the end; part of the whorl between the tumour and the margin of the aperture rather short, inflated in the middle; sutural callus short, distinct; umbilicus broad.

BLANFORD. Journ. Asi. Soc. 1863.
Hab. Hills of Mandelay and Ava.

Species 21. (Mus. Brit.)

ALYCEUS SWINHOEI. *Aly. testâ elevatâ, conicâ, albido-flavidâ, lâvi, anfractibus quinis, suturâ profundâ separatis; ultimo ventricoso, lato, tumori lateraliter subinflato, tûm brevissimè angustato; callo dor-sali minuto, distincto, apertura margine tenui, planato.*

SWINHOE'S ALYCEUS. Shell raised, conical, whitish-yellow, smooth, whorls five, separated by a deep suture; last ventricose, broad, distinct, swelled

by a lateral tumour, then very shortly narrowed; dorsal callus minute, distinct, margin of aperture thin, flattened.

H. ADAMS. Proc. Zool. Soc. 1866, p. 319.
Hab. Isl. Formosa.

Species 22. (Mus. Theobald.)

ALYCEUS KURZIANUS. *Aly. testâ depressâ, fulvâ, tenui-ter sulcatâ, anfractibus quinis, depressis, ultimo ad dorsum medio inflato, validâ rugato, tûm breviter contracto et callo annulari cincto, post aperturam marginem crassitudine crescenti; apertura majusculâ, albâ, infrâ cuneatâ, canaliferâ; margine columellari rectiâsculo, margine externo crenulato; callo suturali minutâ; umbilico latissimo.*

KURZ'S ALYCEUS. Shell depressed, fulvous, finely grooved, whorls five, depressed, last dorsally inflated in the middle, strongly wrinkled, then shortly contracted and girt with an annular callus, increasing in thickness behind the margin; aperture rather large, white, cuneate below, with a canal; columellar margin rather straight, outer margin crenulated; sutural callus minute; umbilicus very broad.

THEOBALD. Journ. Asi. Soc. Bengal.
Hab. Nattarina, Brome.

Species 23. (Mus. Hanley.)

ALYCEUS RICHTOFENI. *Aly. testâ subdepressâ, albidiâ, regulariter sulcatâ; spira acuminatâ, anfractibus angustibus, ultimo medio dorsi inflato tûm contracto, parte inter tumorem et apertura marginem angustâ, levigatâ, per callum annularem in media dividis; margine aperturae duplicato, parte exter- no latè planulato, parte interno producto, angustato, subcrenato; callo suturali tenui, angustato; umbilico magno.*

RICHTOFEN'S ALYCEUS. Shell subdepressed, whitish, regularly grooved; spire acuminated, whorls narrow, last inflated in the middle of the back, then contracted, the part between tumour and edge of aperture narrow, smooth, divided in the middle by an annular callus; margin of aper-

ALYCEUS.—PLATE III.

turo double, outer part broadly flattened, inner part produced, narrow, slightly crenated; sutural callus thin, narrow; umbilicus large.

BLANFORD. Journ. Asi. Soc. Bengal, 1863, Vol. XXXII. p. 324.

Hab. Moulmein.

Species 24. (Mus. Brit.)

ALYCEUS DISTORTUS. *Aly. testā breviter conicā, griseofulvā, lēvi; anfractibus quaternis, rotundis; ultimo alto, post aperturam brevissimè angusto, ad dorsum et lateraliter latè inflato, tumore dorsali prope aperturam in marginem concinnum desidenti; umbilico parvo, margine apertura rotundato; callo suturali angusto, elongato.*

THE DISTORTED ALYCEUS. Shell shortly conical, greyfulvous, smooth; whorls four, rounded; last high, behind the aperture very shortly narrow; dorsal tumour ending near the aperture in a neat margin; umbilicus small, margin of aperture round; sutural callus narrow, long.

HAINES. MS. Brit. Mus.

Hab. ——?

Species 25. (Mus. Brit.)

ALYCEUS NITIDUS. *Aly. testā fuscā, breviter conicā, lēvi, regulariter sulcatā; anfractibus quaternis, ultimo inter marginem aperturā et tumorem dorsalem medio inflato, tumore dorsali mediocrē profundē rugato, callo dorsali elongato, distincto apertura margine duplicito, parte internā subrotundā, productā, parte externā complanatā, infrā angulatā; umbilico parvo.*

THE NEAT ALYCEUS. Shell brown, shortly conical, smooth, regularly grooved; whorls four, last between the margin of the aperture and the dorsal tumour inflated in the middle, dorsal

tumour medium sized, deeply wrinkled, dorsal callus elongated, distinct; margin of aperture double, inner part rather round, produced; outer part flattened, angular below; umbilicus small.

BLANFORD. Journ. Asi. Soc. Bengal, 1863.

Hab. Aracan.

Species 26. (Mus. Brit.)

ALYCEUS BACCI. *Aly. testā conicā, altiusculā, lēvi, tenui, pallidē subviridi, apice succinē; anfractū ultima breviter ante aperturam breviter angusto, tumore dorsali magno, rotundo; callo suturali inconspicuo; margine apertura angusto, simplici, albo.*

THE BACCUS ALYCEUS. Shell conical, rather high, smooth, thin, pale greenish, apex amber; last whorl shortly narrow, dorsal tumour large, round; sutural callus inconspicuous; aperture of the margin narrow, simple, white.

PFEIFFER. Mon. Pneum. ——?

Hab. ——?

Species 27. (Mus. Brit.)

ALYCEUS BURTI. *Aly. testā pallidē fulvā, depresso, lēvi, spira acuminatā; ultimo anfractū post aperturā marginem brevissimè angusto, tumori dorsali mediocri, sulcato; callo suturali conspicuo, valido, elongato; apertura margine angusto, laqueato; umbilico lato.*

BURT'S ALYCEUS. Shell pale fulvous, depressed, smooth, spire acuminated; last whorl very shortly narrow behind the aperture; dorsal tumour middle-sized, grooved; sutural callus conspicuous, strong, elongated; margin of aperture narrow, fluted; umbilicus broad.

GODWIN AUSTIN ——?

Hab. ——?





29.



28.



30.



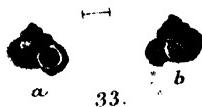
31.



32c



32b.



33.



34.



36.



35

A LYCEUS.

PLATE IV.

Species 28. (Mus. Theobald.)

ALYCEUS MICROSTOMA. *Aly.* *testâ fulvâ, subdepressâ, regulariter rugatâ; ultimo anfractu gradatim inflato, tûm propè aperturæ marginem brevissimè angustato, lœvi; margine aperture contracto, crenato, propè suturum sinuato; umbilico lato.*

THE SMALL-MOUTHED ALYCEUS. Shell brown, subdepressed, regularly wrinkled; last whrl gradually inflated, then very shortly narrowed and smooth near the margin of the aperture; margin of aperture contracted, crenated, sinnated near the suture; umbilicus broad.

SOWERBY.

Alycæus margarita. Theobald (MS.).

Hab. Shan Provinces.

This shell is so different from *Alycæus margarita*, as originally described, that the writer has found it necessary to give it a name.

Species 29. (Mus. Brit.)

ALYCEUS NICOBARICUS. *Aly.* *testâ conicâ, subdepressâ, subviridè cornetâ; anfractibus quaternis, rotundis, ultimo medio dorsi moderatè inflato, ad terminum tumore dorsali concinna marginato, deinde lœvi, angusto; umbilico mediocri; margine aperture duplicato, parte internâ crassâ subproductâ; callo suturali brevissimo, conspicua.*

THE NICOBAR ALYCEUS. Shell conical, subdepressed, greenish horny; whorls four, round, last moderately inflated in the middle of the whorl, neatly edged at the end of the dorsal tumour, then smooth, narrow; umbilicus medium-sized; margin of aperture double, inner part thick, slightly produced; sutural callus very short, conspicuous.

MORCH — ? MS. Brit. Mus.

Hab. Nicobar Islands.

Species 30. (Mus. Brit.)

ALYCEUS OTIPHORUS. *Aly.* *testâ conicâ, altiusculâ, lœvi, griseo-albidâ; anfractibus quinis, prominentibus; ultimo post aperturam constricto, tûm conspicuè*

inflato et ad marginem tumore contracto; tumore dorsali brevi; callo suturali brevissimo; umbilico parvo; margine aperture suprà infrâque subangulato.

THE EAR-HOLE ALYCEUS. Shell conical, rather high, smooth, whitish-grey; whorls five, prominent; last constricted behind the aperture, then conspicuously inflated and contracted at the edge of the tumour; dorsal tumour short; sutural callus very short; umbilicus small; margin of aperture slightly angular above and below.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. VIII. p. 188
(Cyclostoma).

Hab. Himalaya.

Species 31. (Mus. Hanley.)

ALYCEUS GLABER. *Aly.* *testâ fulcâ, depresso-conicâ; leviter sulcatâ; anfractibus quaternis, angustatis, apicalibus rubris, ultimo inter marginem aperture et tumorem dorsalem bi-calloso; tumore dorsali moderatè inflato, rugato; callo suturali subelongato; umbilico latissimo; margine aperture duplicito.*

THE SMOOTH ALYCEUS. Shell fulvous, depressed conical; slightly grooved; whorls four, narrow, apical red, last with two calli between the margin of aperture and dorsal tumour; dorsal tumour moderately inflated, wrinkled; sutural callus rather lengthened; umbilicus very broad; margin of aperture double.

BLANFORD. Journ. Asi. Soc. Beng. 1865, Vol. XXXIV.
p. 84.

Hab. Aracan Hills.

Species 32. (Fig. a, b, Mus. Hanley.)

ALYCEUS SCULPTILIS. *Aly.* *testâ subniridè fulvâ, depresso-conicâ, sulcatâ; anfractibus quaternis, rotundis, apicalibus rubris, acuminatis; ultimo, inter marginem aperture et tumorem dorsalem angusto, aequali sulcato, subelongato; tumore dorsali elongato, concinna marginato; callo suturali inconspicuo; umbilico latissimo; margine aperture duplicito, parte interno validè crenato.*

ALYCEUS.—PLATE IV.

THE SCULPTURED ALYCEUS. Shell greenish-buff, depressed-conical, grooved; whorls four, rounded, apical red, acuminate; last narrowed between margin of aperture and dorsal tumour, narrow, equal, sulcated, rather lengthened; dorsal tumour elongated, neatly edged; sutural callus inconspicuous; umbilicus very broad; margin of aperture double, inner part strongly crenated.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII. p. 226.

Hab. Thyet Myo, near British Burmah.

Species 33. (Mus. Brit.)

ALYCEUS SPIRACELLUM. *Aly. testā obscurè fuscā, depresso, sulcatā; anfractibus quaternis, angustis, apicalibus succineis; ultimo post aperturam breviter angusto, laevi; tumore dorsali mediocri, margine crasso; umbilico longiusculo, callo suturali brevissimo, margine aperturæ complanato; umbilico lato.*

THE SPIRACLE ALYCEUS. Shell dull brown, depressed, grooved; whorls four, narrow, apical amber; last shortly narrowed behind the aperture, smooth; dorsal tumour medium-sized; margin thick; umbilicus rather narrow, sutural callus very short, margin of aperture flattened; umbilicus broad.

ADAMS AND REEVE. Voyage of the 'Sulphur.'

Hab. ——?

Species 34. (Mus. Brit.)

ALYCEUS GRAPHICUS. *Aly. testā pallidē fulvā, conicā, ultā; anfractibus quinīs, apicalibus levibus, penultimo lirato; ultimo et penultimo acutē liratis, ultimo post aperturæ marginem laevi, gradatim angustato; tumore dorsali inconspicuo; callo suturali brevi, conspicuo; umbilico minuto; aperturæ margine duplicato, parte externo ad juncturam anfractus interrupto, subaurito, parte interno tenui, paulò producto.*

THE GRAPHIC ALYCEUS. Shell pale fulvous, conical, high; whorls five, apical smooth, last and last

before sharply ridged, last smooth, gradually narrowed behind the margin of the aperture; dorsal tumour inconspicuous; sutural callus short, conspicuous; umbilicus minute; margin of aperture double, outer part interrupted at the juncture of the whorl, slightly aurited; inner part thin, a little produced.

BLANFORD. Journ. Asi. Soc. Bengal, 1862.
Hab. Aracan Hills.

Species 35. (Mus. Brit.)

ALYCEUS FOOTEI. *Aly. testā depressā, albida, leri: anfractibus quaternis; ultimo post marginem aperturæ breviter angustato; tumore dorsali moderate inflato, concinna marginato, rugato; aperturæ margine extus annulis tribus plicato, infra columellam cunctato.*

FOOTE'S ALYCEUS. Shell depressed, whitish, smooth; whorls four; last shortly narrowed behind the margin of the aperture; dorsal tumour moderately inflated, neatly bordered, wrinkled; margin of aperture plaited in three rings outside, cornered under the columella.

BLANFORD. ——?

Hab. S. India.

Species 36. (Mus. Hanley.)

ALYCEUS UMBONALIS. *Aly. testā majuscūlā, depressā, fulvā, laevi; anfractibus quinīs, apicalibus rubris; ultimo extenso, post aperturæ marginem angusto; tumoris; margine expanso, ad suturam elevato callo suturali elongato; margine apertura transversè ovata, latè planata, reflexo; umbilico maximo.*

THE UMBONAL ALYCEUS. Shell rather large, depressed, fawn, smooth; whorls five, apical red; last extended, elongated behind the aperture; margin of tumour expanded, raised at the suture; sutural callus elongated; margin of aperture transversely ovate, broadly flattened, reflected.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII. p. 225.

Hab. Akauktoung, near Irawaddy, Burmah.



37.



38.



39.



40, a.



41.



42.



40, b.



43.



45.



44.

A LYCÆUS.

PLATE V.

Species 37. (Mus. Brit.)

ALYCEUS GEMMULA. *Aly. testâ minutâ, albida, depressâ, tenuiter striatâ; ultimo anfractu post aperturam marginem angusto, medio crassiusculo, tumori dorsali concinnè marginato, moderatè inflato, rugato; callo suturali brevi, conspicuo; aperturæ margine duplicato, parte externali pluñata, parte internâ productâ.*

THE LITTLE GEM ALYCEUS. Shell minute, whitish, depressed, finely striated; last whorl behind margin of aperture narrow, thickish in the middle, dorsal tumour neatly bordered, moderately inflated, wrinkled; sutural callus short, conspicuous; margin of aperture double, outer part flattened, inner part produced.

BENSON. Ann. Nat. Hist. Ser. 3, Vol. III. 1859.

Hab. Rungun Valley.

Species 38. (Mus. Brit.)

ALYCEUS ARMILLATUS. *Aly. testâ lævi, depresso-conicâ, albida; ultimo anfractu, post aperturam breviter angustissimo, tum latè caloso, inflato; tumore dorsali subretrorsa, margine crasso, caloso; callo suturali conspicuo, breviuscuso, aperturæ margine angusto; umbilico latissimo.*

THE COLLARED ALYCEUS. Shell smooth, depressed conical, whitish; last whorl shortly very narrow, callous behind the aperture, then broadly callous, inflated; dorsal tumour backward, margin thick, callous; sutural callus conspicuous, rather short, margin of the aperture narrow; umbilicus very broad.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII. p. 227.

Hab. Thyet Myo near river Irawaddy, Burmah.

Species 39. (Mus. Brit.)

ALYCEUS POLITUS. *Aly. testâ depressâ, politâ, cestuñata, subtus albida; ultimo anfractu post aperturam constricto, tum longè inflato, ad marginem tumoris depresso et caloso, tumore dorsali inconspicuo, callo suturali albo, brevissimo; umbilico latò; aperturæ margins infrâ columellam cuneato.*

THE POLISHED ALYCEUS. Shell depressed, polished, chestnut, whitish underneath; last whorl constricted behind the aperture, then with a long swelling, depressed and callous at the margin of the dorsal tumour; dorsal tumour inconspicuous; sutural callus white, very short, umbilicus broad; margin of aperture cornered below columella.

BLANFORD. Journ. Asi. Soc. Bengal, 1865.

Hab. Aracan.

Species 40. Fig. a, b. (Mus. Brit.)

ALYCEUS HUMILIS. *Aly. testâ pareâ, griseo-albâ, sulcato-striatâ, depressâ; ultimo anfractu inter aperturam et tumorem dorsalem inflato; tumore dorsali breviter conspicue inflato, callo suturali breviuscuso; umbilico latò; margine aperturæ infrâ cuneato.*

THE HUMBLE ALYCEUS. Shell small, grey-white, groove-striated, depressed; last whorl inflated between aperture and dorsal tumour; dorsal tumour shortly conspicuously inflated, sutural callus rather short, umbilicus broad; margin of aperture cornered below.

BLANFORD. Journ. Asi. Soc. Bengal, 1862.

Hab. Akaonkoung, banks of Irawaddy.

Species 41. (Mus. Hanley.)

ALYCEUS CONSTRICTUS. *Aly. testâ conicâ, altâ, fulvidâ, leviusculâ; anfractibus quaternis, elevatis, tertio distanter leviter lirato; ultimo post aperturam breviter angustissimo; tumor dorsali brevi, concinnè marginato, callo suturali brevi; umbilico parvo; margine aperturæ latè reflexo.*

THE CONSTRICTED ALYCEUS. Shell conical, high, fulvous, rather smooth; whorls four, elevated, third distantly, slightly ridged; last shortly very narrow behind the aperture; dorsal tumour short, neatly bordered; sutural callus short; umbilicus small; margin of aperture broadly reflected.

BENSON. Ann. Nat. Hist., Ser. 2, Vol. VIII. p. 272.

Hab. Sikkim, Himalaya.

ALYCÆUS.—PLATE V.

Species 42. (Mus. Brit.)

ALYCÆUS BEMBEX. *Aly. testâ albâ, conicâ, altâ, laevi; anfractibus quinis, ultimo post aperturam constricto tum inflato et constricto; tumore dorsali valde inflato; callo suturali conspicuo, elongato; apertura margine duplicato; umbilico parvo.*

THE BEMBEX ALYCÆUS. Shell white, conical, high, smooth; whorls five, last constricted, then inflated and constricted behind the aperture; dorsal tumour much inflated; sutural callus conspicuous, elongated; margin of aperture doubled; umbilicus small.

BENSON. Ann. Nat. Hist., Ser. 3, Vol. III. 1859.

Hab. Darjeeling, Himalayas.

Species 43. (Mus. Hanley.)

ALYCÆUS CRENULATUS. *Aly. testâ subdepressâ, griseo-albâ; anfractibus quaternis, ultimo post marginem aperturâ breviter, profundè constricto, tum validè inflato, rugato; margine aperturâ crenulato; umbilico majusculo.*

THE CRENULATED ALYCÆUS. Shell subdepressed, grey-white; whorls four, last shortly, deeply, constricted, then much inflated, wrinkled; margin of aperture crenulated; umbilicus rather large.

BENSON. Ann. Nat. Hist., Ser. 3, Vol. III. 1859.

Hab. Rungun Valley.

Species 44. (Mus. Brit.)

ALYCÆUS THEOBALDI. *Aly. testâ conicâ, subdepressâ, distanter liratâ, griseo-albidâ; ultimo anfractu*

crassiusculo, post aperturam breviter angusto, callo crasso annulato; tumore dorsali moderatè inflato, rugato; callo suturali elongato, angusto; umbilico latiusculo; margine apertura polygono.

THEOBALD'S ALYCÆUS. Shell conical, subdepressed, distantly ridged, grey-white; last whorl rather thick, shortly narrow behind the aperture, ringed with a thick callus; sutural callus long, narrow; umbilicus rather broad; margin of aperture polygonal.

BLANFORD. Journ. Asi. Soc. Bengal. 1862.

Hab. Khasi Hills.

Species 45. (Mus. Brit.)

ALYCÆUS EXPATRIATUS. *Aly. testâ depressissimâ, fulvâ, tenuiter sulcatâ; anfractibus apicalibus rubris, ultimo longè extenso, post aperturâ marginem callo approximato et altero albo medium extanti cincto; tumore dorsali albomarginato, valde inflato; callo suturali breviusculo, conspicuo; umbilico lato; apertura marginâ tenuiter duplicata.*

THE EXPATRIATED ALYCÆUS. Shell very depressed, fulvous, finely grooved; apical whorls red, last considerably extended, girt behind the margin of the aperture with an approximate callus and another white medial, outstanding; dorsal tumour white-edged, strongly inflated; sutural callus rather short, conspicuous, umbilicus broad; margin of aperture thinly doubled.

BLANFORD. Journ. Asi. Soc. Bengal. 1860, Vol. XXIX.

p. 123.

Hab. Nilgherries.

Alycœus, Pl. V.



47.

46.



48.

49.



50, a.



50, b.



51.



52.



53.



54.

1

ALYCAEUS.

PLATE VI.

Species 46. (Mus. Brit.)

ALYCAEUS STYLIFER. *Aly. testâ compressâ, pallidè fulvâ, lateraliter distortâ; apice acuminatâ; ultimo anfractu distanter bimarginato, tumore dorsali latè inflato, rugato; callo suturali breviâsculo; umbilico latissimo.*

THE STYLIFER ALYCAEUS. Shell compressed, pale fulvous, laterally distorted; apex acuminate; last whorl with two distant margins; dorsal tumour broadly inflated, wrinkled; sutural callus rather short; umbilicus very broad.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. XIX. 1857.

Hab. Sikkim, Himalaya.

Species 47. (Mus. Brit.)

ALYCAEUS STRANGULATUS. *Aly. testâ depresso-conicâ, pallidè fulvâ, tenuiter striatâ; ultimo anfractu post marginem aperturae profundè constricto, tunc callo crasso prominenti irregulari armato; tumore dorsali brevi; callo suturali breviâsculo; umbilico latiâsculo; margine aperturæ duplicito.*

THE STRANGLLED ALYCAEUS. Shell depressed, fulvous, finely striated; last whorl deeply contracted behind margin of aperture, then armed with a prominent irregular callus; dorsal tumour short; sutural callus rather short; umbilicus rather broad; margin of aperture double.

HUTTON. MSS. Pfcr. Zeitschrift Malak. 1846.

Hab. Landour.

Species 48. (Mus. Theobald.)

ALYCAEUS BIFRONS. *Aly. testâ pallidè fulvâ, depresso-conicâ, lăvi; anfractibus apicalibus rubris; ultimo anfractu post aperturam longè angustato, callo annulari, et callo albo irregulari prominenti interrupto; tumore dorsali brevi; callo suturali breviâsculo; umbilico lato; margine aperturæ teniâsculo.*

THE TWO-LEAVED ALYCAEUS. Shell pale, fulvous, depressed, smooth; apical whorls red; last whorl with a narrow length behind the aperture, inter-

rupted by an annular and irregular, prominent callus; dorsal tumour short; sutural callus rather short; umbilicus broad; margin of aperture rather thin.

THEOBALD. Journ. Asi. Soc. Bengal, 1870, Vol. XXXIX. Pl. 2, p. 396.

Hab. Shan States.

Species 49. (Mus. Brit.)

ALYCAEUS PROSECTUS. *Aly. testâ depresso-conicâ, pallidè fulvâ, irregulariter sulcata et lirata; ultimo anfractu distorto subgloboso, post aperturam marginem breviter angustato, declivi, carinato; tumore dorsali longè inflato; apertura margine alba, latè reflexo suprà infrâque subaurito; umbilico lato; callo suturali longiâsculo.*

THE SLASHED ALYCAEUS. Shell depressed, conical, pale fulvous, irregularly grooved and ridged; last whorl distorted, subglobose, shortly narrowed behind margin of aperture, sloped, keeled; dorsal tumour lengthily swelled; margin of aperture white, broadly reflected, subaurited above and below; umbilicus broad; sutural callus rather long.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. XIX. 1857.

Hab. Khasi Hills.

Species 50. (Fig. a, b, Mus. Brit.)

ALYCAEUS FUGONI. *Aly. testâ conicâ, acuminatâ, sulphureâ, ultimo anfractu ventricoso, lateraliter et dorso valde inflato; post aperturam breviter angustato, tumori dorsali subito et conspicuo; callo suturali brevissimo; aperturâ angustâ reflexo.*

THE FUGON ALYCAEUS. Shell conical, acuminate; sulphur, last whorl ventricose laterally at the back, much inflated, shortly narrowed behind the aperture; dorsal tumour sudden and conspicuous; sutural callus very short; aperture narrow, reflected.

MARTENS. —? MS. Mus. Brit.

Hab. —?

ALYCEUS.—PLATE VI.

Species 51. (Mus. Brit.)

ALYCEUS PHYSIS. *Aly. testā majuscūlā, depresso-conicā, griseo-albida, lāvi, ultimo anfractu laterāliter extenso; post aperturam distorto, breviter angustato; tumore dorsali concinnē marginato, latè inflato; callo suturali elongato; umbilico maximo; margine aperturæ angustè reflexo.*

THE PHYSIS ALYCEUS. Shell rather large, depressed-conical, greyish white, smooth, last whorl laterally distorted, shortly narrowed behind the aperture; dorsal tumour neatly bordered, broadly inflated; sutural callus elongated; umbilicus very large; margin of aperture narrowly reflexed.

BENSON. Ann. Nat. Hist. Ser. 3, Vol. III. p. 179.

Hab. Rungun Valley, near Darjeeling.

Species 52. (Mus. Hanley.)

ALYCEUS HEBES. *Aly. testā, depresso-conicā; lāvi, pale lide castaneā; ultimo anfractu post marginem aperturæ constricto, callo irregulari retrorsum tortuo munito; tumori dorsali breviūsculo, margine albo; callo suturali longiūsculo; umbilico majuscūlo; aperturæ margine angusto.*

THE DULL ALYCEUS. Shell depressed-conical, smooth, pale chestnut; last whorl constricted behind margin of aperture, strengthened with an irregular backward twisted callus; dorsal tumour rather short, with white margin; sutural callus rather long; umbilicus rather large; margin of aperture narrow.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. XIX. 1857.

Hab. Khasia Hills.

Species 53. (Mus. Brit.)

ALYCEUS STOLITZKII. *Aly. testā albida, tenuissimè striatā, subdepressa; ultimo anfractu post marginem bilirato, tum longè angustissimo; tumore dorsali concinnē marginato; callo suturali conspicuo, elongato; umbilico magno.*

STOLITZSKI'S ALYCEUS. Shell whitish, very finely striated, subdepressed; last whorl with double ridge behind aperture, then with a lengthened very narrow space; dorsal tumour neatly bordered; sutural callus conspicuous, elongated; umbilicus large.

GODWIN AUSTIN. —? MS. Brit. Mus.

Hab. Nagor Hills.

Species 54. (Mus. Brit.)

ALYCEUS INGRAMI. *Aly. testā depressā, albida; ultimo anfractu lateraliter extenso, post aperturam brevisimè contracto; tumore dorsali ad aperturam subapproximato; callo suturali elongato, conspicuo; umbilico latissimo.*

INGRAM'S ALYCEUS. Shell depressed, whitish; last whorl laterally extended, very shortly contracted behind the aperture; dorsal tumour rather near the aperture; sutural callus lengthened, conspicuous; umbilicus very wide.

BLANFORD. Journ. Asi. Soc. Bengal, 1862.

Hab. Aracan.

ALYCÆUS.

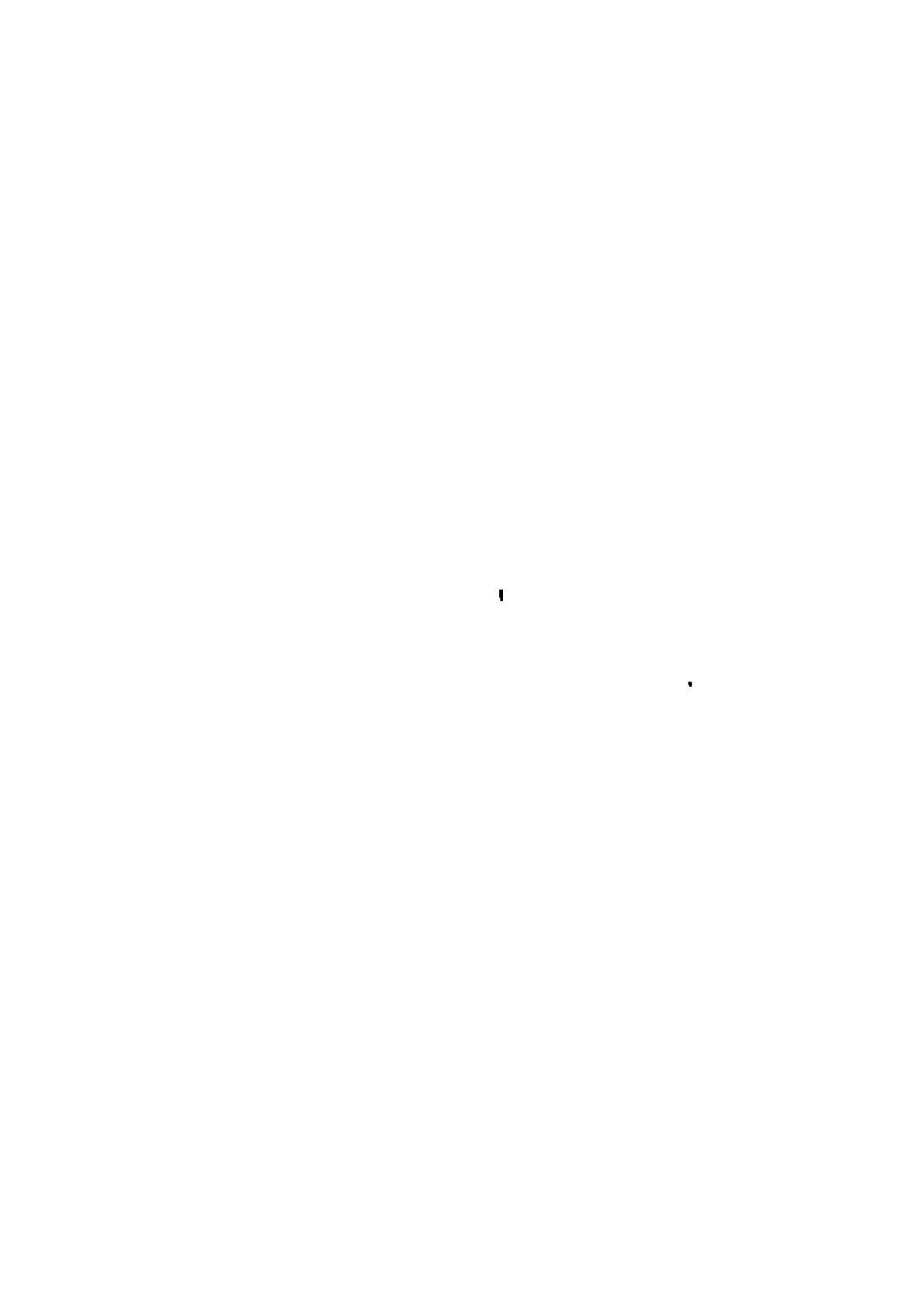
	Plate.	Species.	
amphora, <i>Benson</i>	II.	15	<i>margaritus</i> , <i>Theobald</i>
Andamanica, <i>Benson</i>	II.	10	<i>margaritus</i> , <i>Theobald</i>
armillatus, <i>Benson</i>	V.	38	<i>microstoma</i> , <i>Sowerby</i>
Ava, <i>Blandford</i>	III.	20	<i>Monhoti</i> , <i>Adams</i>
Bacci, <i>Pfeiffer</i>	III.	26	<i>Nicobaricus</i> , <i>Morch</i> —?
bembox, <i>Benson</i>	V.	42	<i>nitidus</i> , <i>Blanford</i>
bifrons, <i>Theobald</i>	VI.	48	<i>otiphorus</i> , <i>Benson</i>
Burtii, <i>Godwin Austin</i>	III.	27	<i>physis</i> , <i>Benson</i>
conicus, <i>Godwin Austin</i>	I.	9	<i>plectocheilus</i> , <i>Benson</i>
constrictus, <i>Benson</i>	V.	41	<i>politus</i> , <i>Blanford</i>
crenatus, <i>Godwin Austin</i>	I.	1	<i>polygonus</i> , <i>Blanford</i>
crenulatus, <i>Benson</i>	V.	43	<i>prosectus</i> , <i>Benson</i>
cucullatus, <i>Theobald</i>	II.	12	<i>pasillus</i> , <i>Godwin Austin</i>
diagonus, <i>Godwin Austin</i>	I.	2	<i>pyramidalis</i> , <i>Benson</i>
distortus, <i>Haines</i>	III.	24	<i>Richtofeni</i> , <i>Blanford</i>
expatriatus, <i>Blanford</i>	V.	45	<i>sculptilis</i> , <i>Benson</i>
Feddenianus, <i>Theobald</i>	II.	18	<i>spiraculum</i> , <i>Adams and Reeve</i>
Footei, <i>Blanford</i>	IV.	35	<i>Stolitzkii</i> , <i>Godwin Austin</i>
Fugori, <i>Martens</i>	VI.	50	<i>strangulatus</i> , <i>Hutton</i>
gemmula, <i>Benson</i>	V.	37	<i>stylifer</i> , <i>Benson</i>
gibbus, <i>Ferrussac</i>	I.	4	<i>succineus</i> , <i>Blanford</i>
glaber, <i>Blanford</i>	IV.	31	<i>Swinhoei</i> , <i>H. Adams</i>
graphicus, <i>Blanford</i>	IV.	34	<i>Theobaldi</i> , <i>Blanford</i>
hebes, <i>Benson</i>	VI.	52	<i>umbonalis</i> , <i>Benson</i>
humilis, <i>Blanford</i>	V.	40	<i>urnula</i> , <i>Benson</i>
Ingrami, <i>Blanford</i>	VI.	54	<i>vestitus</i> , <i>Blanford</i>
Khasiacus, <i>Godwin Austin</i>	I.	8	<i>Vulcani</i> , <i>Blanford</i>
Kurziannus, <i>Theobald</i>	III.	22	



MONOGRAPH
OF THE GENUS
M A R G A R I T A.

Of Nature's gifts thou may'st with lilies boast,
And with the half-blown rose.—*Shakspeare.*







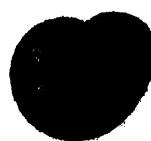
14



15



16



17

M A R G A R I T A.

PLATE I.

Genus MARGARITA. Leach.

Testa subtrochiformis, vel heliciformis, intus et sub tegumentum externum margaritacea, interdum umbilicata, interdum clausa. Apertura magna, simplex. Operculum corneum, subovatum, pauci spirale.

Shell trochus- or helix-shaped, pearly inside and beneath the external tegument, sometimes umbilicated, sometimes closed. Aperture large, simple. Operculum horny, subovate, few-whorled.

This genus consists of a few shells that have been grouped together, as having some affinities, but no very definite uniting characters. In the work by Messrs. Adams they are separated into two genera, and other species have been added to each. In the original genus there are umbilicated and non-umbilicated examples; the former are allowed in that work to retain the name now used, while the latter are named 'Photinula.' This plate having been published in a former number, the writer now completes the monograph, including both sections, as left by his late father, in the Conchological Illustrations, with a few additions from specimens in the collection of the British Museum.

Species 1. (Fig. a, b, Mus. Brit.)

MARGARITA UMBILICALIS. *Mar. testa magnâ, tenui levigatâ, fulvâ, obliquâ; umbilico latissimo, aper turâ maximâ, obliquâ, intus splendidè iridescenti; ultimo anfractu lato, obscurissimè angulato.*

THE UMBILICAL MARGARITA. Shell large, thin, smooth, fulvous, oblique, umbilicus very broad, aperture very large, oblique, splendidly iridescent within; last whorl broad, very obscurely angular.

BRODERIP. Sowerby Con. Ill., p. 13.
Hab. —?

Species 2. (Mus. Brit.)

MARGARITA UNDULATA. *Mar. testa fulvâ, parvâ, de pressâ, spiraliter striatâ, ad suturam undulatâ; ultimo anfractu lato; aperturâ magnâ, obliquâ; umbilico angusto, albo-*

THE WAVY MARGARITA. Shell fulvous, small, depressed, spirally striated, waved at the suture; last whorl broad; aperture large, oblique; umbilicus narrow, white.

SOWERBY. Mal. and Conch. Mag. Conch. Ill. Species 12, f. 4.

Hab. Massachusetts Bay.

Species 3. (Mus. Brit.)

MARGARITA SULCATA. *Mar. testâ albâ, depresso subtus levâ, suprâ spiraliter liratâ; aperturâ latâ; um bilico latâ, subcarinato.*

THE GROOVED MARGARITA. Shell white, depressed, smooth beneath, spirally ridged above; aperture broad; umbilicus broad, subcarinated.

SOWERBY. Mal. and Conch. Mag. p. 26.

Hab. —?

Species 4. (Fig. a, b, Mus. Brit.)

MARGARITA TENUIATA. *Mar. testa trochiformi, fulvâ, fasciis rubris tenuiatis, levigatâ; spirâ conicâ, anfractibus quinis, rapidè crescentibus, ultimo magno; aperturâ magnâ, columellâ albâ, crassâ obliquâ, infrâ subcuneatâ.*

THE RIBBANDED MARGARITA. Shell trochus-shaped, fulvous, banded with red stripes, smooth, spiro conical, whorls five, rapidly increased, last large; aperture large, columella white, thick, oblique, slightly cuneate below.

SOWERBY. Conch. Illus. Species 1, fig. 2.
Hab. Falkland Islands.

Species 5. (Fig. a, b, Mus. Brit.)

MARGARITA VIOLOCEA. *Mar. testâ crassiunculâ, rubri, obliquâ, levi, non umbilicata; anfractibus trinitatis, rapidè crescentibus; ultimo magno, subdepresso, infrâ planiuscula; aperturâ magnâ, obliquâ.*

THE VIOLET MARGARITA. Shell rather thick, red, oblique, smooth, not umbilicated; whorls three, rapidly enlarged; last large, somewhat depressed, rather flattened below; aperture large, oblique.

KING. Zool. Journ. Vol. V. p. 346.
Hab. —?

MARGARITA.—PLATE I.

Species 6. (Mus. Brit.)

MARGARITA GREENLANDICA. *Mar. testū subdepressā, albida, levigatā; anfractibus trinis, depressis; ultimo expanso; aperturā magnā, columellā tenui, umbilico lato.*

THE GREENLAND MARGARITA. Shell rather depressed, whitish, smooth; whorls three, depressed; last expanded; aperture large, columella thin, umbilicus broad.

BECK. Sowerby, Conch. Ill. f. 10.

Hab. Greenland.

Species 7. (Mus. Brit.)

MARGARITA STRIATA. *Mar. testū trocheiformi, fulvi, spiraliter striatā, suprā liratā; spirā conicā, anfractibus quinīs, ultimo magno; aperturā rotundā; umbilico parvo.*

THE STRIATED MARGARITA. Shell trochus-shaped, fulvous, spirally striated; ridged above; spire conical, whorls five, last large; aperture rounded; umbilicus small.

BRODERIP. Zool. Journal IV. Con. Ill. f. 3.

Hab. Northern Ocean?

The larger figure in the Conchological Illustrations, fig. 18, represents a different species, which will be found under the name, *Margarita maxima* in Plate III.





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M A R G A R I T A.

PLATE II.

Species 8. (Mus. Brit.)

MARGARITA SANDWICHIANA. *Mar. testā subglobosā, griseo-fulvā, spiraliter striatā, maculis fuscis nigrescentibus tessellatim variegatā; anfractibus trinis, ultimo magno, subgloboso; aperturā subrotundatā, columellā crassiusculā, obliquā; umbilico lato.*

THE SANDWICH ISLANDS MARGARITA. Shell subglobose, greyish fulvous, spirally striated, variegated with blackish-brown tessellated spots; whorls three, last large, subglobose; aperture rather round; columella rather thick, oblique; umbilicus broad.

A. ADAMS. —? MS. Mus. Brit.

Hab. Sandwich Islands.

Species 9. (Mus. Brit.)

MARGARITA VULGARIS. *Mar. testā parvā, obliquā, depresso-fusca, albida, levigata; anfractibus trinis, ultimo rapide crescenti; aperturā magnā, declivi; columellā tenui; umbilico parvo.*

THE COMMON MARGARITA. Shell small, oblique, depressed, whitish, smooth; whorls three, last quickly increased; aperture large, sloped; columella thin; umbilicus small.

LEACH, SOWERBY. Conch. Ill. Sp. 5. f. 13.

Hab. Northern Seas.

Species 10. (Mus. Brit.)

MARGARITA SIGARETTINA. *Mar. testā obliquā depresso-fusca, crassiuscula, subhaliotidea, rubra, levigata, intus splendida iridescenti; aperturā obliquā ovata, maximā; columellā albā, latā, planulata, perobliqua.*

THE SIGARETTE-LIKE MARGARITA. Shell obliquely depressed, rather thick, rather haliotis-shaped, red, smooth, splendidly iridescent within; aperture obliquely ovate, very large; columella white, broad, flattened, very oblique.

SOWERBY. Mal. and Conch. Mag. p. 24; Con. Ill. f. 14.
Hab. —?

Possibly a further knowledge of this species may lead to its placement in the *Gena* group.

Species 11. (Mus. Brit.)

MARGARITA PULCHERIMA. *Mar. testā altā, trochaformi, subdistanter spiraliter liratā, inter liris regulariter striatis; liris minuti moniliferis, rubro maculatis; umbilico magno, carinato; columellā obliquā.*

THE VERY PRETTY MARGARITA. Shell raised, trochanter-shaped, rather distantly spirally ridged, between the ridges regularly striated; ridges minutely beaded, spotted with red; umbilicus large, keeled; columella oblique.

A. ADAMS. —?

Hab. Japan.

Species 12. (Mus. Brit.)

MARGARITA CERULESCENS. *Mar. testā cinereā, depresso-fusca, non umbilicata, levigata, angustè teniata; spira depresso-conica; aperturā obliquā subquadrata; columellā crassa, latā, supernè valde arcuata.*

THE BLUEISH MARGARITA. Shell ash-coloured, depressed, not umbilicated, smooth, narrowly banded; spire depressed - conical, aperture obliquely squarish; columella thick, broad, strongly arched above.

KING —? MS. Brit. Mus.

Hab. —?

This species belongs to the *Photinula* group.

Species 13. (Mus. Brit.)

MAGARITA ACUMINATA. *Mar. testā cinereo-alba, altā, conica, acuminata; anfractibus quinque; ultimo maximo, subangulata; aperturā magna, columellā tenui, umbilico angustissimo.*

THE ACUMINATED MARGARITA. Shell ashy white, high, conical, acuminated; whorls five; last very large, slightly angular; aperture large; columella thin; umbilicus very narrow.

SOWERBY. Mal. and Conch. Mag. p. 26. Con. Ill. f. 7.
Hab. —?

Species 14. (Mus. Brit.)

MARGARITA PUNCTATA. *Mar. testā elevata, conica, fulva; anfractibus senis turritis, suturā profundā*

MARGARITA.—PLATE II.

separatis, ultimo supernè bicostato, costis rubro maculatis, infrà striato; umbilico maximo; costato, aperturâ parvi.

THE SPOTTED MARGARITA. Shell raised, conical fulvous; whorls six, turreted, separated by a deep suture, last with two ribs above, ribs spotted with red; striated below; umbilicus very large, ribbed; aperture small.

A. ADAMS. —? MS. Brit. Mus.

Hab. Japan.

Species 16. (Mus. Brit.)

MARGARITA ARGENTATA. *Mar. testâ depresso-globosâ, albiddâ, levâ; anfractibus trinis, ultimo maximo, supernè subcarinato; aperturâ magnâ, umbilico majusculo, columellâ arcuatâ.*

THE SILVERY MARGARITA. Shell depressed-globose, whitish, smooth; whorls three, last large, with a slight keel above; aperture large, umbilicus rather large, columella arched.

GOULD. Invert. Mass. p. 256, f. 164.

Hab. Cape Ann.

Species 15. (Mus. Brit.)

MARGARITA HELICINA. *Mar. testâ parvâ, tenui, roseo-fulvâ, subdepressâ, aperturâ magnâ, umbilico angustissimo, columellâ arcuatâ.*

THE HELICINA MARGARITA. Shell small, thin, pinky-fulvous, rather depressed, aperture large; umbilicus rather narrow, columella arched.

FABRICIUS. Vide Proc. Zool. Soc. 1851.

Hab. —?

Species 17. (Mus. Brit.)

MARGARITA ZELANDICA. *Mar. testâ depresso-conicâ, spiraliter sulcatâ, rubro punctatâ; ultimo anfractu subtus complanato; umbilico lato, carinato; aperturâ parvâ, columellâ validâ, infrâ subcuneatâ.*

THE ZEALAND MARGARITA. Shell depressed-conical, spirally grooved, spotted with red; last whorl flattened beneath; umbilicus broad, keeled; aperture small, columella strong, slightly cuneate below.

HUTTON. —? MS. Mus. Brit.

Hab. New Zealand.



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M A R G A R I T A.

PLATE III.

Species 18. (Mus. Brit.)

MARGARITA INCARNATA. *Mar. testā depresso-conica, rubescēti, liris moniliferis sculptā; ultimo anfractū magno, propè suturam concentricē rugato; aperturā magnā; umbilico mediocri.*

THE FLESH-COLOURED MARGARITA. Shell depressed-conical, reddish, sculptured with beaded ridges; last whorl large, concentrically wrinkled near the suture; aperture large; umbilicus middle-sized.

COUTHOY. —? (Ms. Brit. Mus.)

Hab. N. America.

Species 19. (Mus. Brit.)

MARGARITA ARCTICA. *Mar. testā parvā, laevi, depresso, fulvo-grisescēti; ultimo anfractu obliquō, expanso, aperturā maximā, obliquē ovatā; umbilico magno.*

THE ARCTIC MARGARITA. Shell small, smooth, depressed, greyish-fulvous; last whorl oblique, expanded; aperture very large, obliquely ovate; umbilicus large.

LEACH. Sowerby. Conch. Ill. fig. 6.

Hab. Plymouth, Massachusetts.

Species 21. (Mus. Brit.)

MARGARITA CORNATA. *Mar. testā trochaiformi, acuminatā, fulvo-albida, spiraliter liratā; anfractibus senis, altis, angulatis, ultimo obscurē biangulato, umbilico spiraliter coctalo, lato; aperturā subrotundā, margine crenato; columella arcuata.*

THE HORNY MARGARITA. Shell trochus-shaped, acuminate, whitish-buff, spirally ridged; whorls six, raised, angular, last obscurely biangular; umbilicus spirally ribbed, broad; aperture rather rounded, margin crenulated; columella arched.

KIENER Icon. pl. 196, fig. 2.

Hab. —?

Species 22. (Mus. Brit.)

MARGARITA CARINATA. *Mar. testā roseo-fulvā, elevatā, conicā, acuminatā; anfractibus senis, cleratis, angulatis; ultimo propè suturam concentricē lirato, tenui tricarinato, inter carinas lirato; infrā subplanulato; umbilico magno, margine carinato; aperturā subtrigono; columellā obliquā.*

THE KEELED MARGARITA. Shell pinkish-fulvous, raised, conical, acuminated; whorls six, raised, angular; last concentrically ridged near the suture, then with three keels, rather flattened below; umbilicus large, margin keeled; aperture rather trigonal; columella oblique.

A. ADAMS. Proc. Zool. Soc. 1851, 190.

Hab. Calbalonga, Philippines.

Species 23. (Mus. Brit.)

MARGARITA MODESTA. *Mar. testā trochaiformi, pallide carnēci, carinatā, subtrī striatā; anfractibus quarternis, ultimo magno, angulato; umbilico parvo; aperturā mediocri, columellā subobliquā, tenuiuscula.*

THE MODEST MARGARITA. Shell trochus-shaped, pale flesh-coloured, keeled, striated below. Whorls four, last large, angular; umbilicus small; aperture middle-sized, columella rather oblique, rather thin.

MIDDENDORF. —? Ms. (Brit. Mus.)

Hab. —?

Species 24. (Ms. —? copied).

MARGARITA MAXIMA. *Mar. testā magnā, trochaiformi, fulvā; spirā conicā; anfractibus senis, ultimo maximo, supernē quinque-carinato, infrā striato, umbilico latō, margine carinato; aperturā obliquā quadrilaterali, columellā arcuatā, infrā cuneatā, crenulatā.*

MARGARITA.—PLATE III.

THE VERY LARGE MARGARITA. Shell large, trochus-shaped, fulvous; spire conical, whorls six; last very large, five-keeled above, striated below; umbilicus broad, margin keeled; aperture obliquely four sided, columella arched, cuneate below, crenulated.

SOWERBY.

Hab. —?

The writer has not seen the specimen since first figuring it in the Conchological Illustrations, but is of opinion that it must be distinct from *M. strinta*.

Species 25. (Mus. Brit.)

MARGARITA ASPECTA. *Mar. testā conicā, acuminatā, fulvo-rubescēti, spiruliter multi-carinatā, inter carinas concentricè minutè liratā, carinis monili-seris; anfractibus angulatis; umbilico lato.*

THE PRESENTABLE MARGARITA. Shell conical, acuminate, reddish fulvous, spirally, many-keeled, concentrically minutely ridged between the keels; keels beaded; whorls angular; umbilicus broad.

A. ADAMS. Proc. Zool. Soc. 1854, p. 40.

Hab. Australia.

A very beautifully sculptured, trochus-shaped shell.

Species 26. (Mus. Brit.)

MARGARITA TRIANGULOSA. *Mar. testā crassā, subroseen-albida, fusco variegatā; anfractibus subdepressis, angulatis, ultimo propè suturam et medio angulo; umbilico lato, margine carinato; apertura supernè et medio angulata.*

THE TRIANGULAR MARGARITA. Shell thick, pinkish-white, variegated with brown; whorls somewhat depressed, angular, last angular near the suture, and in the middle; umbilicus broad, margin keeled; aperture angular above and in the middle.

A. ADAMS. Proc. Zool. Soc. 1854, p. 40.

Hab. Siam.

Species 27. (Fig. a, b, Mus. —? copied.)

MARGARITA SOLARIIFORMIS. *Mar. testā parvā, depresso, fulvā, angulatā; anfractibus trinis, ultimo depresso, medio angulato; umbilico angulato, margine carinato; apertura latā, columellā albā, rectilīnsculā.*

THE SOLARIUM-SHAPED MARGARITA. Shell small, depressed, angular; whorls three, last depressed, angular in the middle; umbilicus angular, margin keeled; columella white, rather straight.

SOWERBY. Mal. and Conch. Mag. p. 26. Con. Ill. f. 8.

Hab. —?

It has very much the appearance of a miniature solarium.

MONOGRAPH

OF THE GENUS

R O T E L L A.

To God, who all creation made,
The frequent hymn be duly paid.

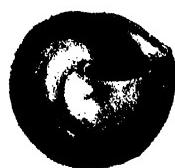
Alleluia, Alleluia! — *Neath*



2^a



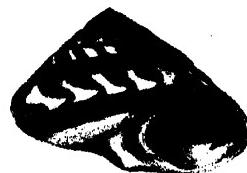
2^b



3^a



4^a



3^b



5^a



5^b



5^c

ROTELLA.

PLATE I.

Genus ROTELLA. Lamarck.

Testa trochiformis, depressa, orbicularis, solida, superne conica, infrà lenticularis, intùs nacrea; umbilico per callum obtecto; aperturâ subtrigonâ, transversâ, operculum corneum, multispirile planorbiculare.

Shell trochiform, depressed, orbicular, solid, conical above, lenticular beneath, pearly within; umbilicus covered in by a callus; aperture rather trigonal, transverse, operculum horny, planorbicular.

SYN. *Umbonium*, Link.

The few species to be found towards the end of this monograph which are placed in the British Museum collection under the generic heading of *Ethalia*, do not so well agree with the above description as the more typical *R. vestiaria*. Yet the passage is not very abrupt, and it seems hardly necessary to keep up a distinction upon characters of so little generic importance. The species alluded to are *R. guamensis*, and several others allied to it. The East Indies appear to be the home of the *R. vestiaria*, although varieties of that species are quoted from the Mediterranean. *R. elegans* is from the Philippines, and a variety from the Martinique. *R. gigantea* and other fine species are from Japan.

Species 1. (Mus. Brit.)

ROTELLA CONICA. *Rot. testâ fusco-purpurascens, crassâ, conicâ, callo ventrali parvo, fusco-fumoso, spiraliter disposito, medio depresso, ultimo anfractu circa callum ventrale depresso.*

THE CONICAL ROTELLA. Shell purplish-brown, thick, conical; ventral callus small, smoky-brown, spirally deposited, depressed in the middle; last whorl depressed round the ventral callus.

ADAMS & REEVE. Voy. Samarang. Proc. Zool. Soc. 1854.

Hab. —?

In this dark but richly-coloured shell the form of the callus is peculiar, being formed of semicircular layers placed spirally. It is small, defined, and does not quite occupy the central hollow of the shell.

Species 2. (Fig. a, b, [c, in Plate II.] Mus. Brit.)

ROTELLA DEPRESSA. *Rot. utrinque lenticulari, depressâ, anfractibus rapidè crescentibus, ultimo ad marginem rotundo, superne medio latè fasciato, fascia margine regulariter punctata, vel fasciis radiatis variegata; callo expanso, griseo, lenticulari.*

THE DEPRESSED ROTELLA. Shell lenticular on both sides, depressed; whorls rapidly increased, last rounded at the margin, with a broad band in the middle above, margin of band regularly spotted, or variegated with rayed bands; callus expanded, grey, lenticular.

A. ADAMS —? MS. Cum. Coll.

Hab. —?

Like *Rotella vestiaria*, but with the last whorl more spread.

Species 3. (Fig. a, b, c, Mus. Brit. and Sowerby.)

ROTELLA GIGANTEA. *Rot. testâ altiusculâ, superne conicâ, infrâ subcomplanatâ; suprâ medium tenuiter spiraliiter striatâ, griseâ, maculis magnis obliquis nigrescentibus ad suturam et ad angulum ornatâ, aut griseâ immaculata; anfractibus propriis suturam depresso, suturâ profundâ; callo irregulâri, roseo, post columellam angulatum tumido; columellâ crassissimâ, latâ; labio extero superne producto et depresso.*

THE GIGANTIC ROTELLA. Shell rather high, conical above, rather flattened below; above the middle, thinly spirally striated, grey, ornamented with large oblique black spots at the suture and at the angle, or grey without spots; whorls near the suture depressed, suture deep; callus irregular, pink, angularly tumid behind the columella; columella very thick, broad; outer lip produced and depressed above.

LESSON. Illust. Zool. Pl. 17.

Hab. Japan. .

Species 4. (Fig. a, b, Mus. Brit.)

ROTELLA COSTATA. *Rot. testâ supernè conicâ, altiusculâ, infrâ planiusculâ, anfractibus ad suturam leviter elevatis tum subdepressis, sulcis spirulibus*

ROTELLA.—PLATE I.

incisis sculptis fusco-grisescens fasciatim variegatis; infrà angulum levigatis; callo rubescenti, columellâ crassâ.

THE RIBBED ROTELLA. Shell conical, rather high above, rather flat below; whorls slightly elevated at the suture, then rather depressed; sculptured with spiral incised grooves, variegated with greyish brown in bands; smooth beneath the angle, callus pink; columella thick,

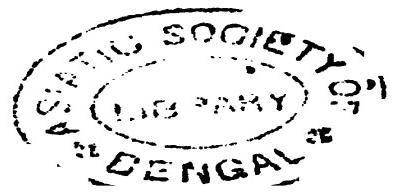
VALENCIENNES. Kiener, Icon. Coq. Viv. Pl. II. f. 5.
Hab. Japan.

Species 5. (Fig. a, b. Mus. Brit.)

ROTELLA MONILIFERA. *Rot. testid supernè conicâ altâ, anfractibus spiraliter costatis, ad suturam in costam noduliferam elevatis, griseis fusco variegatis; callo pleno, grisescens, columellâ obliquâ.*

THE BEADED ROTELLA. Shell conical, high, whorls spirally ribbed, raised at the suture into a beaded rib, grey, varied with brown; callus full, greyish, columella oblique.

LAMARCK. Sowerby's Genera, No. 14.
Hab. ——?





3 c.



6 a.



6 b.



6 c.



6 d.



6 e.



6 f.

ROTELLA.

PLATE II.

(Fig. 3, c, Mus. Brit.)

ROTELLA DEPRESSA. Var. See Plate I.

Species 6. (Fig. a, b, c, d, Mus. Brit. & Sowerby.)

ROTELLA ELEGANS. *Rot. testâ supernâ, altâ, conicâ; anfractibus obliquè planatis, varie fasciis maculisque pictis, subtus planiusculis; callo crasso, subæqualiter convexo.*

THE ELEGANT ROTELLA. Shell high, conical above ; whorls obliquely flattened, variously painted with bands and spots, rather flat beneath ; callus thick, rather equally convex.

BECK. Kiener Icon. Coq. Viv. Pl. II. f. 5.

Hab. Philippines.

Most varieties of this species show a black spiral line on the edges of the whorls, and the whorls are slightly flattened. In *Rotella vestiaria* the black line does not occur, and the whorls are fewer and a little convex.

Species 7. (Mus. Brit.)

ROTELLA SUTURALIS. *Rot. testâ depresso-conicâ, lineis strigisque fuscis variegatâ, spiraliiter sulcis numerosis sculptâ; anfractibus supernâ planatis, ad suturam in costam elevatis; suturâ profundâ; callo lato, rubro.*

THE SUTURED ROTELLA. Shell depressed conical, variegated with brown lines and stripes, spirally sculptured with numerous grooves ; whorls flattened above, raised in a rib at the suture ; suture deep ; callus broad, red.

LAMARCK. Chenu Conch. Cab. Pl. 19, f. 186-7.

Hab. Indian Seas.

More closely sculptured than *Rotella costata*, and with the whorls more raised at the suture.

Species 8. (Mus. Brit.)

ROTELLA JAVANICA. *Rot. testâ altâ, conicâ, ad suturam moniliferâ; anfractibus supernâ subcomplanatis, suprà angulum lineis spiralibus ornatis, subtus angulum interruptim fasciatâ; allo ventrali crasso, griseo-fusco.*

THE JAVA ROTELLA. Shell high, conical, beaded at the suture ; whorls rather flattened above, ornamented with spiral lines above the angle, and an interrupted band below the angle ; ventral callus thick, greyish-brown.

LAMARCK. Anim. S. Vert.

Hab. Java.

Species 9. (Mus. Brit.)

ROTELLA SAGITTATA. *Rot. testâ subdepressâ, supernâ conicâ, maculis sagittatis nigris in series spirales dispositis ornatâ, subtus vix convexâ; callo parvo, albo, circumscripto.*

THE ARROW-HEADED ROTELLA. Shell sub-depressed, conical above, ornamented with arrow-head black spots placed in spiral rows, hardly convex below ; callus small, white, circumscribed.

HINDS. Voy. Sulphur.

Hab. —?

This pretty little shell differs from *R. elegans* chiefly in the arrow-headed markings and the circumscribed callus.







10 b.



10 a.



10 c.



12 a.



12 b.



12 c.



12 d.



12 f



12 e.

ROTELLA.

PLATE III.

Species 10. (Fig. *a, b, c*, Mus. Sowerby.)

ROTELLA INFRAPLANATA. *Rot. testū supernē conicā, altā, infrā subconcavā; anfractibus supernē planatis, variè pictis, infrā angulum circā callum ventralē griseo variegatā; callo parvo, subconcavo; columellā obliquā, ad terminum angulatum.*

THE FLAT-BOTTOMED ROTELLA. Shell conical above, high, almost concave; whorls flattened above, variously painted, variegated with gray; callus small, rather concave; columella oblique, angular at the end.

SOWERBY.

Hab. —?

We have several varieties of this conical shell. The upper part is like *R. elegans*, with greater elevation, but the lower is much more flattened than that of any other species.

Species 11. (Mus. Brit.)

ROTELLA ZELANDICA. *Rot. testū altī, conicā, rubescēti, fusco-rubescēti radiatim strigatā, ad angulum spiraliter tri-liratā; anfractibus infrā suturam subconcavis, subtūs convexiulsculis; callo ventrali griseo-rubescēti, purpureo circumscripto.*

THE NEW ZEALAND. Shell high, conical, reddish, radiately striped with reddish-brown, spirally three-ridged at the angle; whorls rather concave below the suture, rather convex underneath; ventral callus reddish-grey, circumcribed with purple.

A. ADAMS.

Hab. New Zealand.

Species 12. (Mus. Brit.)

ROTELLA VESTIARIA. *Rot. testū depresso, fasciis, strigis, maculisq; variè pictā; anfractibus supernē subconcavis; callo ventrali crasso, lenticulari.*

THE WARDROBE ROTELLA. Shell depressed, variously painted with bands, stripes, and spots; whorls rather concave above; ventral callus thick, lenticular.

SOWERBY. Genera of Shells.

Rotella lineolata (var.) Lamarck.

Rotella rosea, Chemnitz?

Hab. East Indies.

The upper part of the whorls are a little convex, while those of *R. elegans* are quite flattened.



13.



14.



15.



18a.



16.



18b.



19b.



19a.

20.

ROTELLA.

PLATE IV.

Species 13. (Mus. Brit.)

ROTELLA STRIOLATA. *Rot. testâ cinnamononeâ, fusco variegatâ, spirâliter striatâ, suprâ infrâque sub-equaliter convexâ; callo ventrali angusto, trilobato.*

THE STRIATED ROTELLA. Shell cinnamon variegated with brown, spirally striated, nearly equally convex above and below; ventral callus narrow, trilobate.

A. ADAMS. (*Ethalia*), Proc. Zool. Soc. 1853.

Hab. —?

The callus is in three parts, one rounded above, one spread circularly over the umbilicus, and the third forming a thickened margin to the columella.

Species 14. (Mus. Brit.)

ROTELLA CANDIDA. *Rot. testâ parvâ, subglobosâ, levi, albâ, opacâ; callo ventrali parvâ, rotundâ; columellâ latiâculâ; aperturâ magnâ.*

THE WHITE ROTELLA. Shell small, rather globose, smooth, white, opaque; ventral callus small, round; columella rather broad; aperture large.

A. ADAMS. (*Ethalia*), Proc. Zool. Soc. 1862, p. 296.

Hab. Gotto Islands, Japan.

This minute species is less like a *Rotella* than other species of *Ethalia*.

Species 15. (Mus. Brit.)

ROTELLA PERSPICUA. *Rot. testâ minutâ, albâ, compressâ, lenticulari; aperturâ transversâ ovalâ; callo ventrali semilunari.*

THE PERSPICUOUS ROTELLA. Shell minute, white, compressed, lenticular; aperture transversely ovate; ventral callus semilunar.

A. ADAMS. (*Ethalia*), Annals of Natural History, 1861.

Hab. China.

Very simple in form and character.

Species 16. (Mus. Brit.)

ROTELLA BRAZIERI. *Rot. testâ transversâ ovalâ, depresso, minutâ, albâ, semipellucidâ; callo ventrali parvo, rotundo, ad columellum continuo; apertura magna.*

BRAZIER'S ROTELLA. Shell transversely ovate, depressed, minute, white, semipellucid; ventral callus small, rounded, continued at the columella; aperture large.

ANGUS. (*Ethalia*), Proc. Zool. Soc. 1877, p. 39, Pl. 5, f. 17.

Hab. Sow and Pigs Reef, Port Jackson, Australia.

Species 17. (Mus. Brit.)

ROTELLA POLITA. *Rot. testâ subglobosâ, albâ, politâ; spirâ conicâ, anfractibus paucis; callo ventrali ferè obsoletâ.*

THE POLISHED ROTELLA. Shell subglobose, white, polished; spire conical, whorls few; ventral callus almost obsolete.

A. ADAMS. (*Ethalia*), Annals of Nat. Hist. 1862, p. 296.

Hab. Gotto, Japan.

Species 18. (Fig. a, b, Mus. Brit.)

ROTELLA GUAMENSIS. *Rot. testâ altiâscula, subglobosâ; ruriâ pictâ, irrigatâ; anfractibus superne versùs suturam tumidis; angulo centrali rotundo, infrâ convexis, callo reniformi, roseâ; columellâ latâ callosâ.*

THE GUAM ROTELLA. Shell rather high, subglobose; variously painted, smooth; whorls above towards the suture tumid; central angle rounded, convex below, callus kidney-shaped, pinky; columella broadly callous.

QUY. Voy. Astrolabe, Pl. 61, f. 32-33.

Hab. Isl. Guam. — Luxon; Philippines.

This is the type of the genus *Ethalia*, which, however little like *Rotella* in general form, has the same essential characters.

ROTELLA.—PLATE IV.

Species 19. (Fig. *a*, *b*, Mus. Brit.)

ROTELLA SOBRINA. *Rot. testā minutā, planorbulari, compressā, albā, opacā; infrā umbilicād, anfractibus rotundis.*

THE RELATED ROTELLA. Shell minute, planorbular, compressed, white, opaque; umbilicated below, whorls rounded.

A. ADAMS. (*Ethalia*), Ann. of Nat. Hist. 1861, Vol. VIII. 306.

Species 20. (Mus. Brit.)

ROTELLA TRILOBATA. *Rot. testā pallidē griseo-olivaceā, subdepressā, maculis strigisque variè pictā; anfractibus supernē convexiūsculis; umbilico infundi-*

buliformi; callo parvo in partes tres semicirculares diviso.

THE TRILOBATE ROTELLA. Shell pale grey-olive, sub-depressed, variously painted with spots and stripes; whorls rather convex above; umbilicus funnel-shaped; callus small, divided into three semicircular parts.

SOWERBY.

Hab. —?

In this species, the form of the callus is very peculiar, resembling that of *R. striolata*, but more pronounced in character. In rotundity of whorls the species is midway between the latter and *R. Guamensis*.

MONOGRAPH

OF THE GENUS

S T Y L I F E R.

Frank Nature, rather curious than in haste,
Hath well compos'd thee.—*Shakspere.*



1a.



3.



7.



8.



9.

STYLIFER.

PLATE I.

Genus STYLIFER. Broderip.

Testa tenuissima, plerumque pellucida aut semi-pellucida, laevis, polita, multispiralis, subulata vel subglobosa; apice obliqua, styliformi; labio externo sinuatim producta.

Shell very thin, generally pellucid or semi-pellucid, smooth, polished, multispiral, subulate or subglobose; apex oblique, styliform; outer lip sinuously produced.

The mollusca secreting these glassy little shells are parasitic on star-fishes and Echini, burrowing under the skin, and forming tumours which appear externally. One species is found among the spines of our common Echinus, and the first species described by Mr. Broderip infects a starfish of the shores of Galapagos islands.

Species 1. (Fig. a, b. Mus. Brit.)

STYLIFER TURTONI. *Sty. testa subglobosa, parva, spirá acuminatá, productá, anfractibus supernè angulatis, apicalibus minutis papillosis, ultimo magno, subrectilaterali.*

TURTON'S STYLIFER. Shell subglobose, small, spire acuminated, produced, whorls angular above, apical minute papillose, last large, subrectilateral.

BRODERIP. Proc. Zool. Soc. 1832, p. 61.

Hab. On British Echini.

Species 2. (Mus. Brit.)

STYLIFER OVOIDEA. *Sty. testa subglobosa, spirá moderatè producta, anfractibus subrotundis, apicalibus minutissimis; aperturā pyriformi, labio externo supernè subcompresso, sinuatim producta.*

THE EGG-SHAPED STYLIFER. Shell subglobose, spire moderately produced, whorls rather round, apical very minute; aperture pyriform, outer lip slightly compressed above, sinuously produced.

A. ADAMS. Proc. Zool. Soc.

Hab. —

Species 3. (Mus. Brit.)

STYLIFER ASTERICOLA. *Sty. testa ovato-globosa; spirá brevi acuminatá; anfractibus paucis, apicali minuto, apertura angustiuscula, infra subacuminatá; labio externo supernè sinuatim producta.*

THE STARFISH STYLIFER. Shell ovate-globose; spire short, acuminated, whorls few, apical minute; aperture rather narrow, slightly pointed below, outer lip sinuously produced above.

BRODERIP. Sowerby's Conchological Manual, f. 12. 13.
Stylifer Broderipii. Adams.

Hab. Galapagos.

Species 4. (Mus. — ?)

STYLIFER GUNTHERI. *Sty. testa majuscula, turritá, pyramidális; apice producto, acuminato, anfractibus gradatis, supernè angulatis, ultimo magno, globoso, inflato; sinus columellari retrosim extenso.*

GÜNTHER'S STYLIFER. Shell rather large, turreted pyramidal; apex produced, acuminated, whorls step-like, angular above; last large, globose, inflated; columellar sinus extended backwards.

ANGAS (Apicalia). Proc. Zool. Soc. 1877, Pl. V. f. 6.
Hab. New South Wales.

A singularly formed shell, partaking the characters of the globose and subulate sections

Species 5. (Mus. Brit.)

STYLIFER CUMINGIANA. *Sty. testa pyramidális, spirá altá, acuminatá; anfractibus numerosis, depressis, apicalibus trinis aut quaternis attenuatis, styliformibus, ultimo inflato, rotundo, aperturā brevi, columellā rectiuscula.*

CUMING'S STYLIFER. Shell pyramidal, spire raised, acuminated; whorls numerous, depressed, three or four apical attenuated, styliform, last inflated, round, aperture short, columella rather straight.

ADAMS — ? MS. Cum. Coll.

Hab. — ?

STYLIFER.—PLATE I.

Species 6. (Mus. Brit.)

STYLIFER SOLIDA. *Sty. testâ subulatâ, solidiùscula, opacâ; spirâ altissimâ, anfractibus numerosis, apicalibus parvis; apice tortuo; aperturâ brevirosculâ, infrâ acuminatâ.*

THE SOLID STYLIFER. Shell subulate, rather solid, opaque; spire very high, whorls numerous, apical small; apex tortuous; aperture rather short, acuminate below.

A. ADAMS. MS. Cum. Coll.

Hab. —— ?

Species 7. (Mus. Brit.)

STYLIFER BAERONII. *Sty. testâ breviùsculâ, spirâ acuminatâ, anfractibus ultimo et penultimo cylindricis, supernè angulatis; aperturâ oblongâ, infrâ subexpansâ, columellâ crassiuscula.*

BAERON'S STYLIFER. Shell rather short, spire acuminate, last whorl and last but one cylindrical, angular above; aperture oblong, slightly expanded below; columella rather thick.

A. ADAMS. Proc. Zool. Soc. 1854, p. 137.

Hab. —— ?

Species 8. (Mus. Brit.)

STYLIFER DUBIA. *Sty. testâ globosâ, spirâ productâ, pyramidatâ, acuminatâ, anfractibus apicalibus attenuatis, penultimo subinflato, ultimo valde inflato, rotundo; aperturâ pyriformi, labio externo flexuoso.*

THE DOUBTFUL STYLIFER. Shell globose, spire produced, pyramidal, acuminate, apical whorls attenuated, last but one slightly inflated, last much inflated, rounded; aperture pyriform, outer lip flexuous.

BAIRD. MS. Brit. Mus.

Hab. New Caledonia.

Species 9. (Mus. Brit.)

STYLIFER JAPONICA. *Sty. testâ solidiùsculâ, globosâ, brevi; spirâ productâ, attenuatâ, acuminatâ; ultimo unfractu globoso, aperturâ breviùsculâ, infrâ acuminatâ, columellâ tortuâ, solidiùscula.*

THE JAPAN STYLIFER. Shell rather solid, globose, short; spire produced, attenuated, acuminate, last whorl globose, aperture rather short, acuminate below; columella tortuous, rather solid.

A. ADAMS (Amaurella), MS. Brit. Mus.

Hab. —— ?



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20.

STYLIFER.

PLATE II.

Type Indian Seas.
Species 10. (Mus. — ?) *calcarata*.

STYLIFER SPECIOSA. *Sty. testa subulata hyalinata, spirae elevata, supernae styliformi attenuata tortuosa; anfractibus inferioribus inflatis, subrectilateralibus; aperturam brevi, columellam rectiuscula.*

THE SPECIOUS STYLIFER. Shell subulate, hyaline; spire elevated, styliform attenuated, tortuous above; lower whorls inflated, rather straight-sided; aperture short, columella rather straight.

A. ADAMS. Proc. Zool. Soc. 1868.

Hab. Mauritius.

nato; anfractibus quaterdecenis, apicalibus angustissimis, ultimo infrà medium subangulato; aperturam ovatam, labio externo supernae sinnatum producta.

THE SUBANGULAR STYLIFER. Shell pyramidal, very high, apex acuminate; laterally obliquely inclined; whorls fourteen, apical very narrow, last rather angular below the middle; aperture ovate, outer lip sinuously produced above.

A. ADAMS. Proc. Zool. Soc. 1855, p. 122.

Hab. — ?

Species 11. (Mus. Brit.)

STYLIFER ATTENUATA. *Sty. testa angusta pyramidata, spirae altissima, apice obliquè distorta, acutissima; anfractibus numerosis, rectilateralibus, ultimo infrà medium subangulato; aperturam angustam, infrà acuminatam.*

THE ATTENUATED STYLIFER. Shell narrowly pyramidal, spire very high, apex obliquely distorted, very sharp; whorls numerous, straight-sided, last rather angular below the middle; aperture narrow, acuminate below.

SOWERBY.

Hab. St. Thomas.

Species 12. (Mus. Brit.)

STYLIFER CORALLINA. *Sty. testa pyramidata, angustiuscula; apice acuminata, obliquè subinclinata; anfractibus quaterdecenis ad suturam subangulatis, aperturam parvam, infrà subangulatam.*

THE CORALLINE STYLIFER. Shell pyramidal, rather narrow; apex acuminate, slightly inclined obliquely; whorls fourteen, slightly angular at the suture; aperture small, slightly angular below.

CHEMNITZ — ?

Hab. — ?

Species 13. (Mus. Brit.)

STYLIFER SUBANGULATA. *Sty. testa pyramidata, altissima; apice acuminata, lateraliter obliquè inclinata;*

Species 14. (Mus. Brit.)

STYLIFER EXARATA. *Sty. testa solidiuscula, alta, attenuata, anfractibus altiusculis, convexis, obscurè, rugatis ultimo elevata; aperturam subquadratam, parvam columellam rectiusculam.*

THE PLOUGHED STYLIFER. Shell rather solid, high, attenuated, whorls rather high, convex, obscurely wrinkled, last raised; aperture rather square, small; columella rather straight.

A. ADAMS — ?

Hab. — ?

Species 15. (Mus. Brit.)

STYLIFER THOMASIE. *Sty. testa altissima, pyramidata, versus apicem subito contracta, attenuata; apice acuminata, rectiusculo, anfractibus medianis altis, subcylindricis, ultimo obtuse angulata; aperturam obliquè subquadratam, columellam rectiusculam, infrà acuminatam.*

THE ST. THOMAS STYLIFER. Shell very high, pyramidal, contracted suddenly towards the apex, attenuated; apex acuminate, rather straight, middle whorls high, rather cylindrical, last obtusely angular; aperture obliquely subquadrate, columella rather straight, acuminate below.

SOWERBY.

Hab. Isl. St. Thomas.

STYLIFER.—PLATE II.

Species 16. (Mus. Brit.).

STYLIFER FASTIGIATA. *Sty. testā pyramidali, ventricosā, subperforatā, altā; spirā acuminatā, apice attenuatā, obliquē inclinato; anfractibus numerosis, convexiūsculis, ultimo magno, rotundo; aperturā angustā, columellā tenui, infrā acuminatā.*

THE SHARP-POINTED STYLIFER. Shell pyramidal, ventricose, slightly perforated, high; spire acuminate, apex attenuated, obliquely bent; whorls numerous, rather convex, last large, round; aperture narrow, columella thin, acuminate below.

A. ADAMS —? MS. Cum. Coll.

Hab. —?

Species 17. (Mus. Brit.)

STYLIFER SUBULATA. *Sty. testā tenuissimā, pellucidā, pyramidatā, versus apicem subito in stylum contractā et obliquē inclinatā; anfractibus convexiūsculis, ultimo magno, rotundo; aperturā breviūsculā, labio externo suprā medium flexuoso producto.*

THE SUBULATE STYLIFER. Shell very thin, pellucid, pyramidal, suddenly contracted to a style towards the apex, and obliquely bent; whorls rather convex, last large, rounded; aperture rather short, outer lip flexuously produced above the middle.

BEODERIP. Pro. Zool. Soc. 1832, p. 61.

Hab. W. Indies.

Species 18. . (Mus. Brit.)

STYLIFER BULBIFORMIS. *Sty. testā subopacā, breviūsculā, spirā pyramidatā, apice attenuato, acuminato, obliquē distorto; ultimo anfractu magno, rotundo, inflato; aperturā brevi, pyriformi; columellā crassiusculā, labio externo flexuoso.*

THE BULB-SHAPED STYLIFER. Shell rather short, subopaque, spire pyramidal, apex attenuated, acuminate, obliquely distorted; last whorl large, round, inflated; aperture short, pyriform; columella rather thick, outer lip flexuous.

SOWERBY. 1832, p. 10.

Hab. — Isl. St. Thomas.

Species 19. (Mus. Brit.)

STYLIFER GLABRATA. *Sty. testā parvā, albā, politā, ovato-oblongā; aperturā oblongā longitudine spiram equanti; spirā paucispirali; ultimo anfractu subovato, elongato; columellā rectiūsculā.*

THE POLISHED STYLIFER. Shell small, white, polished, ovate-oblong; aperture oblong, equalling spire in length; spire with few whorls, last whorl subovate, elongated; columella rather straight.

A. ADAMS. (Amaurella) MS. Brit. Mus.

Hab. Japan.

Species 20. (Mus. Brit.)

STYLIFER SEMISTRIATA. *Sty. testā parvā, ovatā, albā, partim tenuissimè striatā; spirā quam aperturi longiusculā, anfractibus quaternis, ultimo ovato, oblongo; aperturā ovalā, breviūsculā.*

THE HALF-STRIATED STYLIFER. Shell small, ovate, white, partly very finely striated; spire rather longer than aperture; whorls four, last ovate, oblong; aperture ovate, rather short.

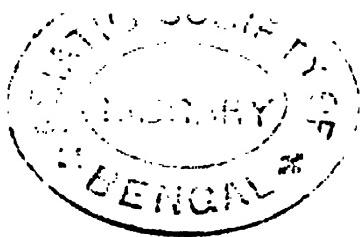
A. ADAMS. (Amaurella) MS. Brit. Mus.

Hab. Japan.

This and the previous species are of very doubtful generic attributes! Quite possibly they may be Styliers, but on the other hand, they may belong to a different part of the system.

MONOGRAPH
OF THE GENUS
A U R I C U L A.

Nothing we see, but means our good,
As our delight, or as our treasure;
The whole is either our cupboard of food,
Or cabinet of pleasure.—*George Herbert.*

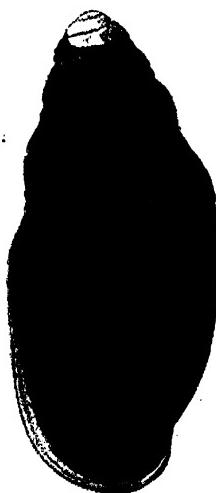




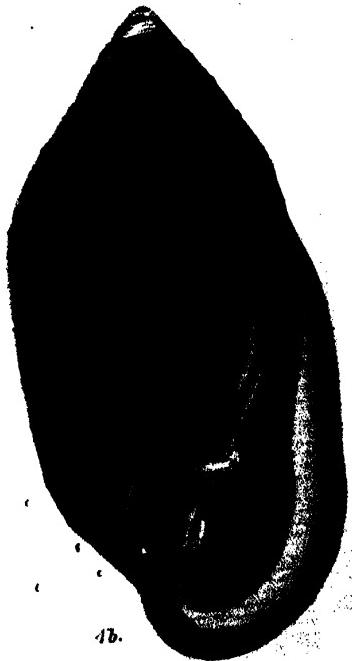
1a.



2a.



2b.



4b.

A U R I C U L A.

PLATE I.

Genus AURICULA. Lamarck.

Testa oblonga, breviter spiralis, epidermide fuscâ induta; aperturâ elongatâ, margine infrâ integro, labio interno plicato et calloso; labio externo interdum interiore, interdum ad marginem plicato; operculum nullum.

Shell oblong, briefly spiral, covered with a brown epidermis; aperture elongated, margin entire below, inner lip plaited and callous; outer lip sometimes plaited internally, sometimes at the margin; operculum none.

Including *Ellobium*, *Bolten*; *Cassidula*, *Fer.*; *Plecotrema*, *Adams*; *Alexia*, *Leach*; *Tralica*, *Gray*; *Mælampus*, *Montf.*; *Marinula*, *King*.

The Auriculae are found in salt-marshes, on mud-banks, among the roots of mangrove-trees, and at the mouths of rivers, principally in tropical countries, particularly those of the eastern hemisphere. China, Borneo, Malacca, the Philippines, and the more southern parts of Australia produce many of the species. A few are found in W. Columbia and the South Sea Islands. The West India Islands produce several well-known species. With regard to the various genera into which the different forms have been divided, it is probable that some of them may be usefully retained, but they are difficult to define, and require entire revision.

Species 1. (Fig. a, b, Mus. Sowerby.)

AURICULA MIDA. *Aur. testâ magnâ, cylindrica, crassâ, epidermide fuscâ indutâ; spira conica, brevi; anfractibus granosè sculptis; ultimo cylindrico, latoi, lateraliter univaricoso, ruddè supra infrâque*

granoso; aperturâ elongatâ, auriformi, medio contracto, labio interno longitudinaliter callosa, infrâ biplicata, labio externo crasso, latè planato, cum columellâ confluenti.

MIDAS' AURICULA. Shell large, cylindrical, thick, covered with a brown epidermis; spire conical, short; whorls sculptured in grains; last cylindrical, smooth, with a lateral varix, coarsely granular above and below. Aperture elongated, ear-shaped, contracted in the middle, inner lip longitudinally callous, with two plaits, outer lip thick, broadly flattened, confluent with columella.

LAMARCK. Nat. Hist. An. s. Vert.

Voluta auris Mida. Linnaeus.

Hab. Indian Seas.

Figures a and b represent two prevailing forms of this familiar shell.

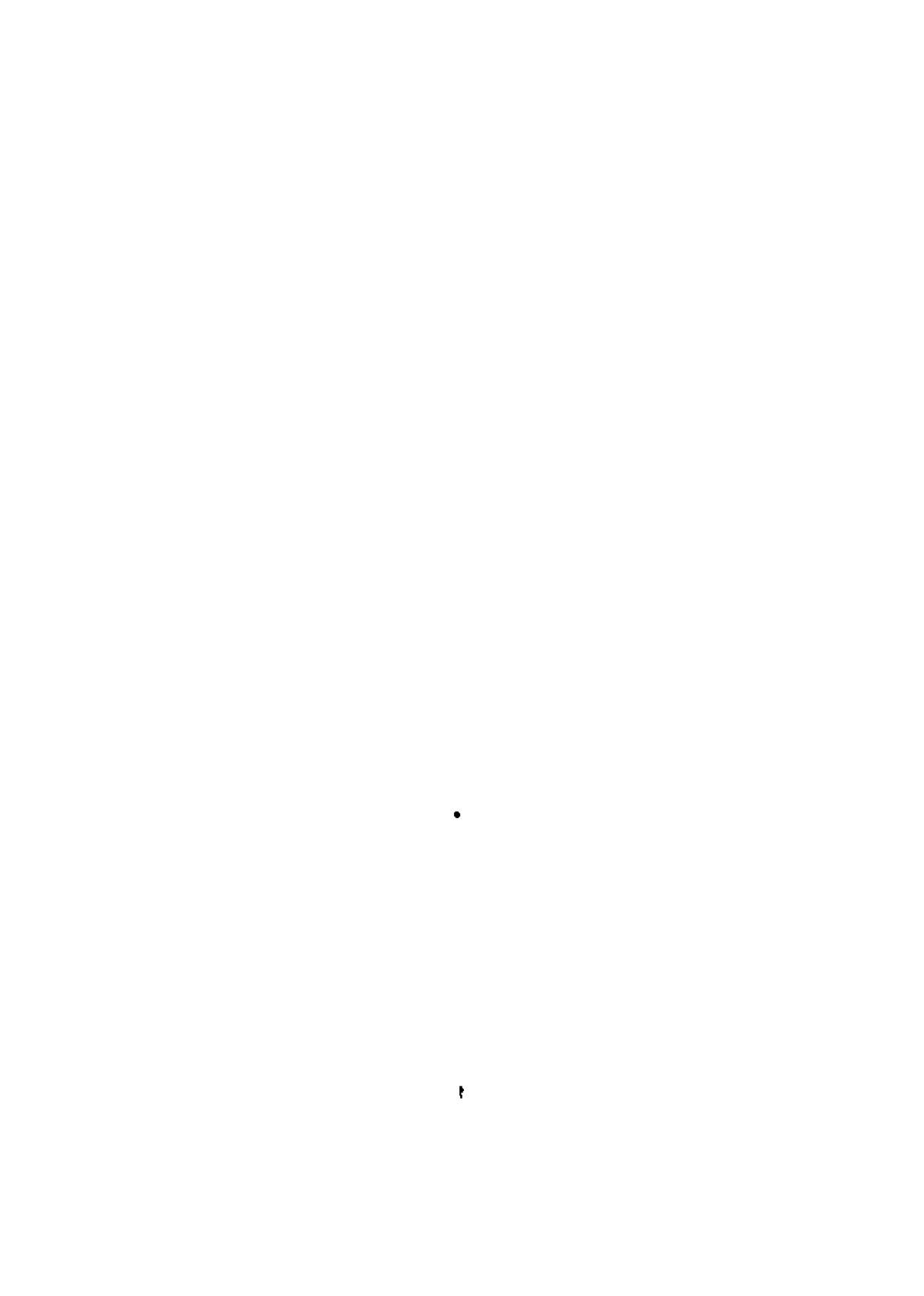
Species 2. (Fig. a, b, Mus. Brit.)

AURICULA MALCHI. *Aur. testâ oblongo-subovata, epidermide fuso indutâ, longitudinaliter rugata; spirâ productâ, anfractibus superne subangulatis, distanter nodosis, ad suturam marginatis et crenulatis; aperturâ breviusculâ, infrâ latiunculâ, columellâ biplicata; labio crasso, intus declivi.*

MALCHUS' AURICULA. Shell oblong-subovate, covered with a brown epidermis, longitudinally wrinkled; spire produced, whorls somewhat angular above, distantly nodose, bordered and crenulated; aperture rather short, rather broad below; lip thick, sloped within.

MÜLLER. Chemn. Conch. Vol. IX. Pl. CXXI. f. 1037.

Hab. —?





3.



4.



6.



10.



11.



12.

AURICULA.

PLATE II.

Species 3. (Mus. Sowerby.)

AURICULA STAGNALIS. *Aur. testā angustā, elongatā, tenui, epidermide pallidā tenui indutā; spirā productā, anfractibus quaternis, penultimo alto, convexo, supernè granoso, ultimo infrā latiusculo, columellā triplicatā, labio externo angusto, depresso.*

THE STILL-WATER AURICULA. Shell narrow, elongated, thin, covered with a pale, thin epidermis; spire produced, whorls four, last high, convex, granular above, last rather broad below, columella three-plaited, outer lip narrow, depressed.

D'ORBIGNY. *Voy. Amér. Mérid.* p. 325, Pl. XLII. f. 7, 8.

Hab. S. America.

Species 4. (Mus. Brit.)

AURICULA GANGETICA. *Aur. testā subcylindricā, tenuiusculā, epidermide stramineā tenui indutā; spirā breviūsculā, anfractibus tumidis, subdepressis, ultimo supra aperturam elevato; aperturā infrā subexpansā; columellā biplicatā.*

THE GANGES AURICULA. Shell rather cylindrical, rather thin, covered with a thin straw-coloured epidermis; spire rather short, whorls tumid, slightly depressed, last raised above the aperture; aperture slightly expanded below; columella with two plaits.

BENSON. *Ann. Mag. Nat. Hist.*

Hab. Bombay.

Species 5. (Mus. Brit.)

AURICULA CEYLONICA. *Aur. testā subcylindricā, spirā breviūsculā, infrā subangulatā, subpyramidalē; ultimo anfractu supernè latiusculā, angulatā; aperturā elongatā, angustiūsculā; columellā biplicatā, labio externo supernè angulato.*

THE CEYLON AURICULA. Shell subcylindrical, spire rather short, rather angular below, subpyramidal; last whorl rather broad above, angular; aperture elongated, rather narrow; columella with two plaits; outer lip angular above.

A. ADAMS. *Proc. Zool. Soc.* 1854, p. 10.
Hab. Ceylon.

Species 6. (Mus. Brit.)

AURICULA TORNATELLINIFORMIS. *Aur. testā subcylindricā, tenuiusculā, epidermide tenui pallidā indutā; spirā pyramidalē, ultimo supernè tumido, infrā subgibbosā; aperturā breviūsculā, infrā rotundatā, supernè angulatā; margine crassi, planulatā; columellā biplicatā.*

THE TORNATELLA-LIKE AURICULA. Shell subcylindrical, rather thin, covered with a thin, pale epidermis; spire pyramidal, last tumid above, rather gibbose below; aperture rather short, rounded below, slightly angular above; margin thick, flattened; columella two-plaited.

PETIT. *Proc. Zool. Soc.* 1854, p. 7.

Hab. — ?

A peculiar roundness at the confluence of the two sides of the aperture suggests the form of tornatella.

Species 7. (Mus. Brit.)

AURICULA HELVACEA. *Aur. testā tenui, pallidiū rubri; spirā brevi, obtusā, ultimo anfractu cylindricā, supernè teniter liratā; aperturā infrā latiusculā, columellā triplicatā, labio externo angusto, planulato.*

THE PALE RED AURICULA. Shell thin, pale red; spire short, obtuse, last whorl cylindrical, finely ridged above; aperture rather broad below, columella three-plaited, outer lip narrow, flattened.

PHILIPPI. *Proc. Zool. Soc.* 1854, p. 8.

Hab. Malacca.

Shaped something like *Auricula Juler*, but without the same solidity of substance and epidermis, and broadness of outer lip.

Species 8. (Mus. Brit.)

AURICULA SEMISULPTA. *Aur. testā oblongā, angustā, pallidiū, cylindricā; spirā brevi, anfractibus supernè dense sagrinatis; aperturā supernè angustā, infrā latiusculā, labio externo angusto, supra medium sinuatim contracto; ploris columellaribus duabus, prominentibus.*

THE HALF-SCULPTURED AURICULA. Shell oblong, narrow, pale, cylindrical; spire short, whorls closely

AURICULA.—PLATE II.

shagreened above; aperture narrow above, rather broad below, outer lip narrow, sinuously contracted above the middle; columellar plaits two, prominent.

A. ADAMS. —?

Hab. Gambier's Island.

The sculpture on the upper part of the whorls is very beautiful, observed through a lens.

Species 9. (Mus. Brit.)

AURICULA DUNKERI. *Aur. testū cylindricā, subpyramidalē, pallidē rubescētē; spirā productā, anfractibus subturrētis, convexiūsculā; aperturā breviūsculā, subpyriformi, margine latissimē planā, castanēā, columellā triplicatā.*

DUNKER'S AURICULA. Shell cylindrical, rather pyramidal, pale reddish; spire produced, whorls rather turrated, rather convex, aperture rather short, rather pyriform, margin very broadly flattened, chestnut, columella with three plaits.

PFEIFFER. —?

Hab. —?

Species 10. (Mus. Brit.)

AURICULA PALLESCENS. *Aur. testū cylindricā, tenui, pallidū; spirā acuminatā, productā; ultimo anfractu supernē angulatā; aperturā breviūsculā; columellā infrā biplicatā; labio externo supernē angulato, medio et infrā incrassato.*

THE PALE AURICULA. Shell cylindrical, thin, pale; spire acuminated, produced; last whorl angular above; aperture rather short; columella with

two plaits below, outside lip rather angular above, thickened at the middle and under.

PETIT. —? Proc. Zool. Soc. 1854, p. 10.

Hab. —?

Species 11. (Mus. Sowerby.)

AURICULA CHINENSIS. *Aur. testū elongatā, crassi; epidermide lōvi, crassā pallidē castanēā indutā; spirā productā, convexā, obtusā; aperturā breviūsculā, columellā crassā, infrā callosā, plicis dubius validis munitā; labio externo crasso, lato, supra medium tumido, suturam versus angulato et sinuato.*

THE CHINESE AURICULA. Shell elongated, thick; covered with a smooth, thick pale chestnut epidermis; spire produced, convex, obtuse; aperture rather short, columella thick, callous below, guarded with two strong plaits; outer lip thick, broad, tumid above the middle, angular and sinuated towards the suture.

PFEIFFER. Proc. Zool. 1854, p. 152.

Hab. Chinese Seas.

Species 12. (Mus. Sowerby.)

AURICULA SUBULA. *Aur. testū elongatā, angustā, olivaceā, tenui; spirā elongatā, attenuatā; aperturā brevi, labio externo tenui, columellā infri subarcuratā, truncatā.*

THE AWL AURICULA. Shell elongated, narrow, olive, thin; spire elongated, attenuated; aperture short, outer lip thin, columella rather arched below, truncated.

GUAY. Voy. Astro. Pl. XIII. f. 39, 40.

Hab. Cuba.





14.



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15.



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16a.



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16b.



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A U R I C U L A.

PLATE III.

Species 13. (Mus. Brit.)

AURICULA SACCATA. *Aur. testū cylindricā, angustā, epidermide fusca, crassā, leviter sulcatā indutā; spirā productā, anfractibus rectilateralibus, ultimo oblongo; infrā tumido, subtruncato; aperturā breviusculā, angustā; margine carneo, labio extero supra medium inflexo; columellā infra crassā, leviter bidentatā, prope medium acutē unidentatā.*

THE BAGGED AURICULA. Shell cylindrical, narrow, covered with a brown, thick, slightly grooved epidermis; spire produced, whorls straight-sided, last oblong, swelled, rather truncated below; aperture rather short, narrow; margin flesh-coloured, outer lip bent inwards above the middle; columella thick below, with two slight teeth and one sharp near the middle.

PFEIFFER. Proc. Zool Soc. 1854, p. 121.

Hab. Bay of Manilla.

Species 14. (Mus. Brit.)

AURICULA SEMIPPLICATA. *Aur. testā tenui, angustā, olivaceā; spirā attenuatā, elongatā; anfractibus supra suturam arcuatim liratis, ultimo medio et infrā levigato; aperturā breviusculā, pyriformi, columellā infra medium plicā prominenti armatā.*

THE HALF-PLAITED AURICULA. Shell thin, narrow, olive; spire attenuated, elongated; whorls arch-ridged above the suture, last smooth at the middle and below; aperture rather short, pyriform, columella armed with a prominent plait below the middle.

H. and A. ADAMS. MS. Brit. Mus.

Auricula sculpta. —?

Hab. Sandwich Islands, &c.

Distinguished by curved plaits or ridges on the upper part of the whorls.

Species 15. (Mus. Brit.)

AURICULA ELONGATA. *Aur. testū subfusiformi, angustā, nitenti; spirā conicā, subproductā; aperturā*

angustā, labio externo tenui, labio interno arcuato, infra medium unidentato, ad terminum truncato.

THE ELONGATED AURICULA. Shell rather fusiform, narrow, smooth; spire conical, rather produced; aperture narrow, outer lip thin, inner lip arched, with a single tooth below the middle, truncated at the end.

PARREYS. —? MS. Mus. Brit.

Hab. Mediterranean.

Species 16. (Fig. a, b, Mus. Sowerby.)

AURICULA JUDEI. *Aur. testā solidā, oblongo-cylindrica, epidermide fusca, densè liratā indutā; spirā productā, obtusā; aperturā elongatā, supra medium subcontractā; labio interno valido, medio et infrā plicis duabus munito; labio externo lato, planato, supra medium tumido, vernis suturam angulato et sinuato.*

THE JEWESS'S AURICULA. Shell solid, oblong-cylindrical, covered with a brown, closely-ridged epidermis; spire produced, obtuse; aperture elongated, rather contracted above the middle; inner lip strong, guarded with two teeth above the middle and below; outer lip broad, flattened, swelled above the middle, sinuous and angular towards the suture.

LINNEUS. (*Voluta auris Judei*.)

Hab. India.

Species 17. (Mus. Brit.)

AURICULA INCRASSATA. *Aur. testā crassā, angustā, spirā attenuatā, productā, anfractibus; subangu- latis, ultimo cylindrico; aperturā auriformi, medio sinuatum contracto, margine crassissimo, columellā biplicatā.*

THE THICKENED AURICULA. Shell thick, narrow, spire attenuated, produced; whorls slightly angular, last cylindrical; aperture auriform, sinuously contracted in the middle, margin very thick, columella with two plaits.

A. and H. ADAMS. MS. Brit. Mus.

Hab. —?

Species 18. (Mus. Brit.)

AURICULA HOOGLYENSIS. *Aur. testâ tenuiâsculâ, striatâ, supernè conicâ, infrâ subrotundâ; sp. subpyramidalâ, anfractibus quaternis, rectilaterâbus, ultimo cylindrico, supernè angulato; columellâ arcuatâ, infrâ medium biplicatâ.*

THE HOOGLY AURICULA. Shell rather thin, straw coloured, conical above, rather rounded; sp. rather pyramidal, whorls four, straight-sided last cylindrical, angular above; column arched, with two plaits below the middle.

BLANFORD. —? MS. Brit. Mus.

Hab. Hoogly, India.

Species 19. (Mus. Brit.)

AURICULA LUTEA. *Aur. testâ ovatâ, pallidâ fulvâ fusi fasciatâ; spirâ brevi, conicâ, ultimo anfractu subcylindrico; aperturâ angustâ, labio exterius plicis numerosis munito; columellâ arcuatâ triplicatâ.*

THE YELLOW AURICULA. Shell ovate, pale fawn band with brown; spire short, conical, last whorl rather cylindrical; aperture narrow, outer lip provided with numerous plaits within; column arched, with three plaits.

QUOY. Voy. Astro. Zoologie, Vol. II. p. 163.

Melampus pallescens. Sowerby.

Hab. —?

Species 20. (Mus. Brit.)

AURICULA OPARICA. *Aur. testâ tenui, angustâ, fusiformi, pallidâ stramineâ; spirâ produciâ, si acuminatâ, anfractibus elevatis, ultimo infrâ si truncato; aperturâ brevi, columellâ arcuatâ, in medium uniplicatâ, ad terminum truncatâ.*

THE OPARA AURICULA. Shell thin, narrow, fusiform pale straw; spire produced, rather acuminate whorls raised, last slightly truncated below aperture short, columella arched, with a plait below the middle, truncated at the end.

H. and A. ADAMS. —? MS.

Mar. Operaria Ital. & Soc.

Species 21. (Mus. Brit.)

AURICULA PUSILLA. *Aur. testâ parvâ, angustâ, albâ; spirâ acuminatâ, ultimo anfractu supra apertura elevatâ, versus terminum subattenuatâ; aperturâ parvâ, columellâ biplicatâ.*

THE DWARF AURICULA. Shell small, narrow, white spire acuminated, last whorl elevated above the aperture, slightly attenuated towards the end aperture small, columella with two plaits.

H. and A. ADAMS. —? MS. Brit. Mus.

Dwarf Auricula



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AURICULA.

PLATE IV.

Species 22. (Mus. Sowerby.)

AURICULA DOLIOLUM. *Aur. testū purvā, ovatā, griseā, fusco-fasciatā; spiraliter tenuiter sulcatū; spirā fuscā, brevi, mucronatā; aperturā elongatā, intus castaneā, columellā infra medium prominenti, bīpli catā; labio externo lato, albo, planulato, ad medium unidentato.*

THE LITTLE TON AURICULA. Shell small; ovate, grey, banded with brown; spirally finely grooved; spire brown, short, mucronate; aperture lengthened, chestnut within; columella with two prominent plaits below the middle; outer lip broad, white, flattened, with a tooth at the middle.

PETIT. —? Proc. Zool. Soc. 1854, p. 31.

Hab. —?

Species 23. (Mus. Brit.)

AURICULA FRUMENTUM. *Aur. testū fulvā, subcylindricā, solidissimū; spirā brevi, ultimo anfractu oblongū; labio interno latè expanso, tridentato, columellā brevi, uniplicatā, labio externo paulò incrassato.*

THE CORN AURICULA. Shell fawn, rather cylindrical, rather solid; spire short, last whorl oblong; inner lip broadly spread, three-toothed, columella short, with one plait, outer lip a little thickened.

PETIT. —? Proc. Zool. Soc. 1854, p. 11.

Hab. Lima.

Species 24. (Mus. Brit.)

AURICULA AVENA. *Aur. testū parvā, angustā, pallidē fulvā, leviter fasciatā; spirā productā, acuminate; aperturā superne angustatā, labio interno infra medium triplicato, columellā uniplicatā, labio externo ad medium subinuato.*

THE WHEAT AURICULA. Shell small, narrow, pale fulvous, slightly banded; spire produced, acuminate; aperture narrow above, inner lip three-plaited below the middle, columella single-plaited, outer lip rather sinuous at the middle.

PETIT. —? Proc. Zool. Soc. 1854, p. 34.

Hab. —?

Species 25. (Mus. Brit.)

AURICULA FELIS. *Aur. testū fusca, lata, tenuissimè spiraliter striatā; spirā brevi, conicā, ultimo*

anfractu infrā obliquè attenuato, prope terminum spiraliter carinato; aperturā subovatā, margine inflexo; latè planulato; labio externo supra medium, profundè sinuato, medio expanso, denticulato, labio interno biplicato; columellā pliū bifida armatā.

THE CAT'S AURICULA. Shell brown, smooth, very finely spirally striated; spire short, conical, last whorl obliquely attenuated below, spirally keeled near the end; aperture subovate, margin bent inwards, broadly flattened, outer lip with a deep sinus above the middle, expanded and crenulated at the middle; inner lip with two plaits; columella armed with a bifid plait.

LAMARCK. Anim. s. Vert.

Bulinus auris-felis. Bruguière.

Hab. W. Indies.

Species 26. (Mus. Brit.)

AURICULA NUCLEUS. *Aur. testū oratā, internò fusco, tenuiter spiraliter sulcatā; spirā brevi, anfractibus convexis, ultimo breviuando, infrā spiraliter carinatā, angustā, infra carinam concavā, labio interno biplicato, columellā prominenti, uniplicato, labio externo caffeo, lato, planato, supra medium prominenter expanso.*

THE NUT AURICULA. Shell ovate, deep brown, finely spirally grooved; spire short, whorls convex last rather short, spirally keeled below, narrow concave below the keel; inner lip with two plaits columella with a prominent plait, outer lip coffee-coloured, broad, flattened, prominently expanded above the middle.

GMELIN. Linn. Syst. Nat.

Cassidula Cumingiana. Adams.

Hab. Manilla.

Species 27. (Mus. Sowerby.)

AURICULA COFFEA. *Aur. testū ovatā, fusco latè fasciatā, tenuiter spiraliter striatā; spirā conicā, brevi, ultimo, anfractu angulato, infrā angustatā, carinatā; labio externo pallidē purpureo, supra medium prominenter lobato, columellā biplicatā.*

THE COFFEE AURICULA. Shell ovate, broadly banded with brown, finely spirally striated; spire conical, short, last whorl angular, narrowed below,

AURICULA.—PLATE IV.

keeled; outer lip pale purple, prominently lobed above the middle, columella with two plaits.

CHEMNITZ. Conch. IX. t. 121, f. 5.
Hab. Mexico.

A shorter and more angular shell than *Auricula felis*.

Species 28. (Mus. Sowerby.)

AURICULA ANGULATA. *Aur. testā conico-cylindrica, griseo-fuscā, ad angulum albo-fasciatā; spira breviter conica, anfractibus acutè angulatis; labio externo pallide carneo, planato; margine interno supra medium prominenter expanso; labio interno supra columellam biplicato, infrā expanso, concavo, pliciū duplicitū armato.*

THE ANGULAR AURICULA. Shell conico-cylindrical, grey-brown, with a white band on the angle; spire shortly conical, whorls sharply angular; outer lip pale flesh, flattened; inner margin prominently expanded above the middle; inner lip with two folds above the columella, expanded below, concave, armed with a double plait.

PETIT. Proc. Zool. Soc. 1854, p. 31.

REEVE. Conch. Syst. Auricula, Pl. LXXXVII. f. 5.
Hab. —?

Species 29. (Mus. Sowerby.)

AURICULA DECUSSATA. *Aur. testā griseo-fuscā, spiraliiter sulcatā, sulcis decussatā; spira productā, sub-acuminatā, ultimo anfractu supernē rotundo, infrā carinato; aperturā biangulatā; labio interno biplicato; columellā expansā, uniplicatā, labio externo supernē angulatim sinuato, supra medium plicā acutè angulatā prominenti armato.*

THE DECUSSATED AURICULA. Shell grey-brown, spirally grooved, grooves decussated; spire produced,

slightly acuminate, last whorl rounded above, keeled below; aperture biangular; inner lip with two plaits; columella expanded, with a single plait, outer lip with an angular sinus above, armed above the middle with a sharply angular, prominent plait.

H. and A. ADAMS. —? MS. Brit. Mus.
Hab. —?

Species 30. (Mus. Brit.)

AURICULA GRANIFERA. *Aur. testā griseā, conica, liris tenuissimis, striis decussatis, graniferā; apertura angustā, utrinque dentatā.*

THE GRANULAR AURICULA. Shell grey, conical, grained by very fine ridges crossed by striae; aperture narrow, toothed on each side.

MOUSSON. —? MS. Brit. Mus.

Hab. Near Cape Bedford.

Species 31. (Mus. Brit.)

AURICULA TURRITA. *Aur. testā elongatā, turrīta, longitudinaliter tenuisimè plicatā, epidermide stramineā indutā; spira elongatā, anfractibus elevatis; supernē subangulatis, ad suturam crenulatis; apertura pyriformi; labio interno prominenter triplicato, labio externo latè incrassato.*

THE TURRETED AURICULA. Shell elongated, turreted, longitudinally very finely plaited, covered with a straw-coloured epidermis; spire elongated, whorls raised, rather angular above, crenulated at the suture; aperture pyriform, inner lip with three prominent plaits, outer lip broadly thickened.

PEIFFER. Proc. Zool. Soc. 1854, p. 121.
Hab. Philippines.



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A U R I C U L A.

PLATE V.

Species 32. (Mus. Sowerby.)

AURICULA KRAUSSII. *Aur. testâ fusco-fumosâ, levi, supernâ tenuiter sulcatâ, ovatâ, spirâ pyramidata; ultimo anfractu infrâ carinato; aperturâ angustâ, supernâ subdepressâ, labio interno triplicato, labio externo lato, medio prominenter unifasciatâ, supra medium angulatum sinuato.*

KRAUSS'S AURICULA. Shell smoky brown, smooth, finely grooved above, ovate, spire pyramidal; last whorl keeled below; aperture narrow, somewhat depressed above, inner lip with three plaits, columella with three plaits, outer lip broad, middle with a prominent tooth, angularly sinuous above the middle.

KÜSTER. Proc. Zool. Soc. 1854. p. 11.

Hab. —?

Species 33. (Mus. Sowerby.)

AURICULA PEPITA. *Aur. testâ obliquè ovatâ, fusca; spirâ breviusculâ, anfractibus tribus, rapidè crescentibus, ultimo magno; aperturâ patulâ, latâ, anticâ obliquè productâ, columellâ rectiusculâ, dentibus duobus prominentibus albis armatâ.*

THE PIP AURICULA. Shell obliquely ovate, brown; spire rather short, whorls three, quickly increased, last large; aperture patent, broad, anteriorly obliquely produced, columella rather straight, armed with two prominent white teeth.

KING. (*Marinula*). Zool. Journ. Vol. V. p. 344.

Auricula nigra. Philippi.

Hab. —?

Species 34. (Mus. —? Copied.)

AURICULA AUSTRALIS. *Aur. testâ ovatâ, pallidâ olivaceâ, fusco longitudinaliter strigatâ, medio albo unifasciatâ, infrâ spirâliter carinatâ; spirâ productâ, obtusa; aperturâ brevi ovatâ, columellâ biplicatâ, labio externo tenuiusculâ.*

THE AUSTRALIAN. Shell ovate, pale olive, longitudinally striped with brown, with a single white band in the middle, spirally keeled below; spire produced, obtuse; aperture short, oval, columella with two plaits, outer lip rather thin.

QUOR. Voy. Astr. Vol. II. p. 169. Pl. XIII. f. 34-38.

Hab. Australia.

Species 35. (Mus. Sowerby.)

AURICULA SULCULOSA. *Aur. testâ coffee-coloured, tenuissimè striatâ; spirâ breviusculâ, obtusa, anfractibus rotundis; labio externo planato, medio angulatum unidentato, supra medium sinuato, labio interno tenui, biplicato, columellâ latâ, concavâ, validè unidentatâ.*

THE SULCATED AURICULA. Shell coffee-coloured, very finely striated; spire rather short, obtuse, whorls rounded; outer lip flattened, with angular tooth at the middle, sinuous above the middle, inner lip thin, two-plaited, columella broad, concave, with one strong tooth.

MOUSSON. Journ. Conch. Paris.

Hab. Port Natal.

Resembles *Auricula decussata*, less angular and with the folds of the outer lip much less produced.

Species 36. (Mus. Sowerby.)

AURICULA SANDWICHENSIS. *Aur. testâ intensè fusca, medio albo cingulatâ, larvi, subcylindrica, infrâ leviter carinatâ, spirâ pyramidata, aperturâ brevi, labio interno biplicato; columellâ inconspicuâ uniplicatâ.*

THE SANDWICH ISLAND AURICULA. Shell deep brown, with a white band in the middle, smooth, subcylindrical, slightly keeled below, spire pyramidal, aperture short, inner lip with two plaits; columella with an inconspicuous plait.

EDÉYOUX.—? Proc. Zool. Soc. 1854. p. 34.

Auricula Browni. Philippi.

Hab. Sandwich Islands.

Species 37. (Mns. Brit.)

AURICULA BROTHIANA. *Aur. testâ badiâ, griseo pallidâ, fasciatâ, ovato-subglobosa, utrinque acuminatâ; aperturâ angustâ, dentibus prominentibus acutis utrinque armatâ, columellâ infrâ uniplicatâ.*

BROT'S AURICULA. Shell bay, banded with pale grey, oval-subglobose, acuminate at each end; aperture narrow, armed on both sides with sharp, prominent teeth, columella with one plait below.

PFEIFFER.—? M.S. Brit. Mus.

eylon.

AURICULA.—PLATE V.

Species 38. (Mus. Brit.)

AURICULA ZONATA. *Aur. testā oblongā, conicā, luteā, levi, fusco-fasciatā; spirā pyramidali, breviusculā, ultimo anfractū obtuse angulato; aperturā elongatā, columellā biplicatā, labio externo tenuiūsculo, intus maculato, transversē plicato.*

THE BANDED AURICULA. Shell oblong, conical, yellowish, smooth, banded with brown; spire pyramidal; rather short, last whorl obtusely angular; aperture elongated, columella with two plaits, outer lip rather thin, spotted inside, with transverse plaits.

MÜHLFELDT.—? MS. Brit. Mus.

Auricula monile. Lamarck.

Auricula fasciata. Deshayes.

Voluta flava. Gmel.

Auricula mustellina. Deshayes.

Hab. West Indies.

Species 39. (Mus. Sowerby.)

AURICULA QUOVI. *Aur. testā parvā, fusco fasciatā, ovatā, supernè acuminatā; spirā productā, pyramidatā; aperturā breviusculā; columellā biplicatā, labio externo tenui.*

QUOY'S AURICULA. Shell small, banded with brown, ovate, acuminate above; spire produced, pyramidal; aperture rather short; columella with two plaits, outer lip thin.

A. ADAMS. (Laminodonta).

Hab. New Zealand.

Species 40. (Mus. Brit.)

AURICULA ORYZA. *Aur. testā angustā, fusiformi, lavi, albā; spirā elatā, pyramidatā; aperturā parvā, columellā biplicatā.*

THE RICE AURICULA. Shell narrow, fusiform, smooth, white; spire raised, pyramidal; aperture small, columella with two plaits.

H. & A. ADAMS—? MS. Brit. Mus.

Hab. —?

Species 41. (Mus. Brit.)

AURICULA NITIDULA. *Aur. testā parvā, nitenti, castaneā, fasciatā, fusiformi, angustā, spirā elatā, sub-acuminatā, ultimo anfractū infrā tumidiūsculo; aperturā angustā, labio externo tenui, labio interno biplicato, columellā arcuatā, infrā truncatā.*

THE NEAT LITTLE AURICULA. Shell small, shining, chestnut, banded, fusiform, narrow, spire raised, slightly acuminate, last whorl rather tumid below; aperture narrow, outer lip thin, inner lip with two plaits; columella arched, truncated below.

H. & A. ADAMS—? MS. Brit. Mus.

Hab. —?

Sla

Auricula Pl.VI



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51.

AURICULA.

PLATE VI.

Species 42. (Mus. Brit.)

AURICULA COSTELLARIS. *Aur. testū olivaceā-fuscā, obliquè longitudinaliter costatā, latā, brevi; spirā conicā, ultimo anfractu breviter cylindrico, infrā carinato, infra carinam umbilicato; aperturā angustā, labio interno arcuato, triplicata.*

THE SMALL RIBBED AURICULA. Shell olive-brown, obliquely longitudinally ribbed, broad, short; spire conical; last whorl shortly cylindrical, keeled below, umbilicated below the keel; aperture narrow, inner lip arched, with three plaits.

H. & A. ADAMS. MS. Brit. Mus.

Hab. New Zealand

Species 43. (Mus. Brit.)

AURICULA GLOBULUS. *Aur. testū brevi, ovato-globosā, utrinque acuminatā, olivaceā, fasciatā; aperturā angustissimā, semilunari; columellā biplicatā, labio externo tenuiñsculo.*

THE GLOBE AURICULA. Shell short, ovate-globose, acuminate at each end, olive, banded; aperture very narrow, semilunar; columella with two plaits, outer lip rather thin.

D'ORBIGNY—? MS. Brit. Mus.

Hab. S. America.

Species 44. (Mus. Brit.)

AURICULA STRIATA. *Aur. testū parvā, conicā, coffeeā, spiraliter sulcatā, supernē tenuiter longitudinaliter plicatā; spirā brevissimā; anfractibus ad suturam crenulato-cristatis; ultimo infrā angusto, truncato; aperturā angustā, labio interno tenui, inconspicue plicatā, columellā validē uniplicatā, labio externo incrassato, supernē angulato.*

THE STRIATED AURICULA. Shell small, conical, coffee-coloured, spirally grooved, finely longitudinally plaited above; spire very short; whorls with a crenulated crest at the suture; last narrow below, truncated; aperture narrow, inner lip thin, inconspicuously plaited, columella with a strong plait, outer lip thickened, angular above.

PEASE—? MS. Brit. Mus.

Hab. South Sea Islands.

Species 45. (Mus. Sowerby.)

AURICULA SULCATA. *Aur. testū subcylindrical, intus fuscā, albo angustè trifasciati, supernē spiraliter liratā, infrā crebrè sulcatā; spirā pyramidalā, ultimo anfractu infrā obtusè carinato; aperturi semirotatā, labio interno biplicato, labio exterius reflexo, albo, subincassato.*

THE GROOVED AURICULA. Shell rather cylindrical, deep brown, with three narrow white bands, spirally ridged above, closely grooved below; spire pyramidal, last whorl obtusely keeled below; aperture half-oval, inner lip with two plaits, outer lip reflected, white, rather thickened

H. & A. ADAMS. MS. Brit. Mus.

Auricula Stutchburyi. Pfeiffer.

Hab. New Zealand.

Species 46. (Mus. Brit.)

AURICULA CINGULATA. *Aur. testū subcylindrical, utrinque acuminatā, angustā, castaneo-fasciatā, spirā fuso-nigrescenti, elevatā, lateraliter convexis-culā; ultimo anfractu cylindrico; aperturā, intus dentatā; labio columellari infrā sinuato, conspicue uniplicato.*

THE BANDED AURICULA. Shell subcylindrical, acuminate at each end, narrow, banded with chestnut, spire blackish brown, raised, rather convex laterally; last whorl cylindrical; aperture toothed within; columellar lip sinuous below, with a conspicuous plait.

PFEIFFER. MS. Brit. Mus.

Melampus variabilis. Gassies.

Hab. Cuba, New Caledonia.

Species 47. (Mus. Brit.)

AURICULA TABOGENSIS. *Aur. testū conicā, fuscā, solidā, ventricosā, lavi; spirā breviter conicā; ultimo anfractu infrā angustato, acuminato, columellā validē biplicatā, aperturā angustā, intus transversè crebriplicatā.*

THE TABOGA AURICULA. Shell conical, brown, solid, ventricose, smooth; spire shortly conical; last whorl narrow below, acuminate, columella

AURICULA.—PLATE VI.

with two strong plaits, aperture narrow, closely transversely plaited within.

Quoy. Voy. Astrolabe. Proc. Zool. Soc. 1854.

Hab. Isl. Masbate, Philippines.

C. B. ADAMS. Zool. Proc. 1854. p. 9.

Hab. Jamaica.

Species 48. (Mus. Brit.)

AURICULA UMLASSIANA. *Aur. testū conicā, latissimā, olivaceā, pallidā fusco-fasciatā; spirā brevissimā, subplanulatā, ultimo anfractu infrā angustissimā; labio interno infrā uniplicato; columelli uniplicatā; labio externo intius multiplicato.*

THE UMLASSIAN AURICULA. Shell conical, very broad, olive, banded with pale brown; spire very short, rather flat, last whorl very narrow below; inner lip with one plait below, columella with one plait; outer lip numerously plaited within.

KRAUSS—? MS. Mus. Brit.

Hab. S. Africa.

Species 49. (Mus. Brit.)

AURICULA COSTATA. *Aur. testū castaneā, brevi, ovati, longitudinaliter costatā, costis obliquis, undulatis, spirā conicā, anfractibus ad suturam cristatis; apertura semiovatā, margine crassissimo, labio interno rectiusculo, margine quinque-plicato; labio externo superne angulatim subsinuato.*

THE RIBBED AURICULA. Shell chestnut, short, ovate, longitudinally ribbed, ribs oblique, undulated, spire conical, whorls crested at the suture; aperture half-oval, margin very thick, inner lip rather straight; margin with five plaits; outer lip rather angularly sinuous above.

Species 50. (Mus. Brit.)

AURICULA GUNDLACHI. *Aur. testū subconicā, obtusè angulatā, pallidā, fasciis castaneis interruptis pictā; spirā brevissimā, ultimo anfractu infra subtruncato; apertura angustā, intius multiplicatā; labio interno biplicato.*

GUNDLACH'S AURICULA. Shell rather conical, obtusely angular, pale, painted with interrupted chestnut bands; spire very short, last whorl slightly truncated below; aperture narrow, numerously plaited within; inner lip with two plaits.

PFEIFFER. MS. Brit. Mus.

Hab. Cuba.

Species 51. (Mus. Brit.)

AURICULA OLIVACEA. *Aur. testū convexo-conicā, olivaceā, griseo-fasciatā, fasciis strigatis; spirā brevissimā, ultimo anfractu ventricoso, superne angulata, infrā angustato; labio interno biplicato; labio externo intius multiplicato, ad marginem dense castaneo.*

THE OLIVE AURICULA. Shell convexly conical, olive, banded with grey, bands striped; spire very short, last whorl ventricose, angular above, narrow below; inner lip with two plaits; outer lip many-plaited within, deep chestnut at the margin.

CARPENTER. MS. Brit. Mus.

Hab. California.

Auricula (P.M.)



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AURICULA.

PLATE VII.

Species 52. (Mus. Brit.)

AURICULA REDFIELDI. *Aur. testa parva, conica, obtuse angulata, infra obliquè subtruncata, albida, castaneo interr. optim fasciatæ; apertura angustissimæ, intus seriatim plicata; labio interno uniplicato; columella uniplicata.*

REDFIELD'S AURICULA. Shell small, conical, obtusely angular, obliquely subtruncated in front, whitish, with interrupted chestnut bands; aperture very narrow, plaited in rows within, inner lip single-plaited, columella single-plaited.

PFEIFFER. MS. Brit. Mus.
Hab. Bermuda.

Species 53. (Mus. Brit.)

AURICULA CAFFRA. *Aur. testa ovato-conica, olivaceo-fusca, concolori vel fasciatæ; spira brevissima; ultimo anfractu ad suturam subcristata, infra post columellam concava; columella uniplicata; apertura intus valde plicata.*

THE CAFFER AURICULA. Shell ovately-conical, olive-brown, uniform or banded; spire very short; last whorl somewhat crested at the suture, concave below, behind the columella; columella with one plait, aperture with strong plaits within.

KÜSTER. Conch. p. 86, Pl. V. f. 6
Auricula ater. Mühlfeldt.
Hab. S. Africa.

Species 54. (Mus. Brit.)

AURICULA BIDENTATA. *Aur. testa ovato-conica, obtusa, discolor, interr. pallide trispiciata; spira brevis, conica, ultimo anfractu superne obtuse angulata, tertia acuminata; apertura angusta, intus crenata, labio interno biplicato.*

THE DOUBLE-TOOTHED AURICULA. Shell ovate-conical, obtuse, olive, with three pale interrupted bands; spire short, conical; last whorl obtusely angular above; acuminate below; aperture narrow, without teeth inside, inner lip with two teeth.

SAY. Invertebrata of Massachusetts.

Auricula cornea. Deshayes.
Hab. N. America.

Species 55. (Mus. Brit.)

AURICULA CRISTATA. *Aur. testa subcylindrica, pallidè castanea; spira brevissima, ultimo anfractu ad suturam elevata, tumida, infra spiraliiter tumida; apertura angusta, labio interno triplicato, infra concavo, ad terminum subtruncata.*

THE CRESTED AURICULA. Shell rather cylindrical, pale chestnut; spire very short, last whorl raised at the suture, tumid, spirally tumid below; aperture narrow, inner lip with three plaits, concave below, rather truncated at the end.

PFEIFFER. MS. Brit. Mus.
Hab. Philippines.

Species 56. (Mus. Brit.)

AURICULA BOREALIS. *Aur. testa conica, levata, pallidè fulvo fasciata; spira elevata, conica, ultimo anfractu obtusissime angulata, prope terminum angustè carinata, labio interno prope medium uniplicata, columella infra uniplicata; labio externa incrassata.*

THE BOREAL AURICULA. Shell conical, smooth, banded with pale brown; spire elevated, conical, last whorl very obtusely, angular, narrowly keeled near the end, inner lip with a single plait near the middle, columella with a single plait below; outer lip thickened.

CONRAD. (Melampus.)
Hab. North America.

Species 57. (Mus. Sowerby.)

AURICULA CONIFORMIS. *Aur. testa conica, lutea, griseo-olivacea latè fasciata; spira brevis, ultimo anfractu obscurè angulata, infra acuminata, columella uniplicata; apertura intus seriatim plicata, labio externo tenui, intus fasciata.*

AURICULA.—PLATE VII.

THE CONE-SHAPED AURICULA. Shell conical, yellow, broadly banded with olive-grey; spire short, last whorl obtusely angular, acuminate below, columella with one fold; aperture with a row of teeth inside, outer lip thin, banded within.

LAMARCK. Anim. s. Vert.

Voluta minuta. Gmel.

Hab. Barbadoes.

Species 58. (Mus. Brit.)

AURICULA LIVIDA. *Aur. testâ obesâ, subconicâ, griseo-olivaceâ; spirâ brevissimâ, anfractibus maculatis, ultimo infrâ subtruncatâ, post columellam concavâ; aperturi utriusque denticulatâ.*

THE LIVID AURICULA. Shell stout, rather conical, olive-grey, spire very short, whorls spotted, last subtruncated below, concave below the columella; aperture toothed on both sides.

LINNÆUS. Syst. Nat.

Auricula Liberiana? Adams.

Hab. — ?

Species 59. (Mus. Brit.)

AURICULA PANAMAENSIS. *Aur. testâ elongatâ, fusiformi, intense fusca, luevi, infrâ tumiduscâ; spirâ productâ, anfractibus quaternis, ultimo oblongo; aperturâ auriformi, infrâ subterpansâ, medio contractâ; labio externo ad medium sinuato; labio interno quadriplicato, columellâ infrâ rectiunculâ.*

THE PANAMA AURICULA. Shell elongated, fusiform, deep brown, smooth, rather tumid below; spire produced, whorls four, last oblong; aperture auriform, rather expanded below, contracted in the middle; outer lip sinuous in the middle, inner lip with four plaits; columella rather straight.

C. B. ADAMS. Shells of Jamaica.

Hab. Jamaica.

Species 60. (Mus. Brit.)

AURICULA PYRIFORMIS. *Aur. testâ conicâ, subattenuatâ, spirâ brevi, subrotundatâ, ultimo anfractu olivaceo pallide maculato, infrâ attenuato, acuminato, columellâ conspicue biplicatâ.*

THE PYRIFORM AURICULA. Shell conical, rather attenuated, spire short, rather rounded, last whorl

olive with pale spots, attenuated below, acuminate, with two conspicuous plaits.

PETIT. Proc. Zool. Soc. 1842, p. 202.

Hab. Tumaio, West Columbia.

Species 61. (Mus. Brit.)

AURICULA DENTICULATA. *Aur. testâ fulvâ, fusiformi; spirâ elongatâ, pyramidatâ, ultimo anfractu ventricosa, ovato, labio columellarî conspicue triplicato, labio externo intus incrassato, obtuse bidentato.*

THE TOOTHED AURICULA. Shell fulvous, fusiform; spire elongated, pyramidal, last whorl ventricose, ovate; columellar lip conspicuously three-plaited, outer lip thickened within, with two conspicuous teeth.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLII. f. 4, 5.

Hab. Bermuda.

Species 62. (Mus. Brit.)

AURICULA SIAMENSIS. *Aur. testâ obtuse conicâ, castaneo quadrifasciatâ; spirâ breviusculâ, ultimo anfractu supernè obtuse angulato, infrâ subtruncato; aperturâ intus fasciatâ, columellâ conspicue biplicatâ; labio externo incrassato.*

THE SIAMESE AURICULA. Shell obtusely conical, with four chestnut bands; spire rather short; last whorl obtusely angular above, slightly truncated below; aperture banded within; columella conspicuously two-plaited; outer lip thickened.

MARTENS. MS. Brit. Mus.

Hab. Siam.

Species 63. (Mus. Brit.)

AURICULA MITRALIS. *Aur. testâ olivaformi, angusti, luevi; spirâ elevatâ, obtusâ, convexiuscula; ultimo anfractu cylindrico, pallide fusco, supernè maculato; aperturâ pyriformi, infrâ rotundâ, columelli brevi, rectâ, uniplicatâ.*

THE MITRE-LIKE AURICULA. Shell olive-shaped, narrow, smooth; spire raised, obtuse, rather convex, last whorl cylindrical, pale brown, spotted above; aperture pyriform, round below; columella short, straight, with one plait.

ADAMS. MS. Brit. Mus.

Hab. Mogadore.

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